|   |  |                      |                 |                | ST<br>DEPARTMENT<br>DIVISION O |           | URAL RESC     |            | 3                  |                                | AMENI               | FC<br>DED REPOI | RM 3          |                |
|---|--|----------------------|-----------------|----------------|--------------------------------|-----------|---------------|------------|--------------------|--------------------------------|---------------------|-----------------|---------------|----------------|
|   |  | AF                   | PPLICATION FO   | OR PERM        | IT TO DRILL                    |           |               |            |                    | 1. WELL NAME and N             | JMBER<br>NBU 92     | 1-22A1S         |               |                |
| 2. TYPE C   | 2. TYPE OF WORK  DRILL NEW WELL ( REENTER P&A WELL ) DEEPEN WELL ) |                      |                 |                |                                |           |               |            | 3. FIELD OR WILDCA |                                |                     |                 |               |                |
| 4. TYPE O   | 4. TYPE OF WELL  Gas Well Coalbed Methane Well: NO                 |                      |                 |                |                                |           |               |            |                    | 5. UNIT or COMMUNI             | TIZATION<br>NATURAL |                 | ENT NAM       | 1E             |
| 6. NAME   | 6. NAME OF OPERATOR  KERR-MCGEE OIL & GAS ONSHORE, L.P.            |                      |                 |                |                                |           |               |            |                    | 7. OPERATOR PHONE 720 929-6515 |                     |                 |               |                |
| 8. ADDRE  | SS OF OPERAT   |                      | P.O. Box 173779 |                | <u> </u>                       |           |               |            |                    | 9. OPERATOR E-MAIL             | L                   | anadarko        |               |                |
|   | RAL LEASE NUM  |                      | F.O. BOX 173778 | 11. MII        | NERAL OWNERS                   | SHIP      |               |            |                    | 12. SURFACE OWNER              | SHIP                |                 | .com          |                |
|   |  | TU-010950-A          |                 | FED            | ERAL IND                       | DIAN 🔵    | STATE (       | ) FEE      |                    |                                | DIAN 🔳              |                 |               | EE 🔵           |
| 13. NAME  | OF SURFACE   | OWNER (if box 12     | = 'fee')        |                |                                |           |               |            |                    | 14. SURFACE OWNER              | R PHONE             | (if box 12      | = 'fee')      |                |
| 15. ADDR  | ESS OF SURFA   | CE OWNER (if box     | 12 = 'fee')     |                |                                |           |               |            |                    | 16. SURFACE OWNER              | R E-MAIL            | (if box 12      | ! = 'fee')    |                |
|   | N ALLOTTEE O   | R TRIBE NAME         |                 |                | TEND TO COMM                   |           | RODUCTION     | FROM       |                    | 19. SLANT                      |                     |                 |               |                |
|   | U  | te Indian Tribe      |                 | YES            | (Submit C                      | Commingli | ing Applicati | on) NO     |                    | VERTICAL DIF                   | RECTION             | AL 📵 H          | IORIZON       | ral 🔵          |
| 20. LOC   | ATION OF WELL  | -                    |                 | FOOTAGE        | S                              | QTF       | R-QTR         | SE         | CTION              | TOWNSHIP                       | R/                  | ANGE            | ME            | RIDIAN         |
| LOCATIO   | ON AT SURFACE  |                      | 943             | FNL 183        | 5 FEL                          | NV        | WNE           | :          | 22                 | 9.0 S                          | 2                   | 1.0 E           |               | S              |
| Top of U  | Ippermost Prod   | lucing Zone          | 38              | 6 FNL 464      | FEL                            | NENE 22   |               |            | 22                 | 9.0 S                          | 2                   | 1.0 E           |               | S              |
| At Total  | At Total Depth 386 FNL 464 FEL NENE                                |                      |                 |                | :                              | 22        | 9.0 S         | 2          | 1.0 E              |                                | S                   |                 |               |                |
| 21. COUNTY 22. DISTANCE TO NEAREST LEA: 386               |  |                      |                 |                |                                |           | eet)          |            | 23. NUMBER OF ACRI | ES IN DRI                      |                     | IT              |               |                |
| 25. DISTANCE TO NEAREST V<br>(Applied For Drilling or Com |  |                      |                 |                |                                |           | leted)        | POOL       |                    | 26. PROPOSED DEPTI             |                     | TVD: 111        | 02            |                |
| 27. ELEV  | ATION - GROUN  | ID LEVEL             |                 | 28. BC         | OND NUMBER                     | 32        | 1             |            |                    | 29. SOURCE OF DRIL             |                     |                 |               |                |
|   |  | 4816                 |                 |                |                                | WYB00     | 00291         |            |                    | WATER RIGHTS APPR              | 43-8                |                 | PPLICAB       | LE             |
|   |  |                      |                 |                | Hole, Casing                   |           |               |            | 1                  |                                |                     |                 |               |                |
| String<br>Surf  | Hole Size  | Casing Size<br>8.625 | 0 - 2850        | Weight<br>28.0 | Grade & T                      |           | Max Mu        |            |                    | Cement<br>Type V               |                     | Sacks<br>180    | Yield<br>1.15 | Weight<br>15.8 |
| - Suit  | 11   | 0.025                | 0 - 2000        | 20.0           | J-33 L1                        |           | 0.            |            |                    | Class G                        |                     | 270             | 1.15          | 15.8           |
| Prod  | 7.875  | 4.5                  | 0 - 11341       | 11.6           | HCP-110                        | LT&C      | 13            | .0         | Prer               | mium Lite High Stre            | ngth                | 350             | 3.38          | 12.0           |
|   |  |                      |                 |                |                                |           |               |            |                    | 50/50 Poz                      |                     | 1630            | 1.31          | 14.3           |
|   |  |                      |                 |                | А                              | TTACH     | MENTS         |            |                    |                                |                     |                 |               |                |
|   | VEF  | RIFY THE FOLLO       | WING ARE AT     | TACHED I       | N ACCORDAN                     | ICE WITI  | H THE UTA     | AH OIL A   | AND GAS            | CONSERVATION G                 | ENERA               | L RULES         |               |                |
| <b>✓</b> w  | ELL PLAT OR M  | AP PREPARED BY       | LICENSED SURVE  | YOR OR E       | NGINEER                        |           | СОМ           | PLETE D    | RILLING PI         | _AN                            |                     |                 |               |                |
| AF  | FIDAVIT OF STA   | ATUS OF SURFACE      | OWNER AGREEM    | IENT (IF FE    | EE SURFACE)                    |           | FORM          | 1 5. IF OP | ERATOR IS          | S OTHER THAN THE LE            | EASE OW             | NER             |               |                |
| <b>I</b> DII  | RECTIONAL SU   | RVEY PLAN (IF DIR    | ECTIONALLY OF   | HORIZON        | TALLY DRILLED                  | )         | торо          | GRAPHI     | CAL MAP            |                                |                     |                 |               |                |
| NAME La   | aura Abrams  |                      |                 | TITLE Re       | egulatory Analyst              | : II      |               |            | PHONE 7            | 20 929-6356                    |                     |                 |               |                |
| SIGNATU   | JRE  |                      |                 | DATE 04        | 4/23/2012                      |           |               |            | EMAIL La           | ura.Abrams@anadarko            | o.com               |                 |               |                |
|   | BER ASSIGNED<br>047526070  |                      |                 | APPROV         | AL                             | Bacqill   |               |            |                    |                                |                     |                 |               |                |
|   |  |                      |                 |                |                                |           |               |            | Permi              | it Manager                     |                     |                 |               |                |

NBU 921-22B Pad Drilling Program

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### Kerr-McGee Oil & Gas Onshore, L.P.

NBU 921-22A1S
Surface: 943 FNL / 1835 FEL NWNE
BHL: 386 FNL / 464 FEL NENE

Section 22 T9S R21E

Unitah County, Utah Mineral Lease: UTU-010950A

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

## 1. & 2.a <u>Estimated Tops of Important Geologic Markers:</u> Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

| <u>Formation</u>                               | <u>Depth</u>                              | <u>Resource</u> |
|--|---|-----------------|
| Uinta<br>Green River<br>Birds Nest<br>Mahogany | 0 - Surface<br>1,556'<br>1,908'<br>2,404' | Water<br>Water  |
| Wasatch  | 4,946'                                    | Gas             |
| Mesaverde                                      | 7,851'                                    | Gas             |
| Sego   | 10,060'                                   | Gas             |
| Castlegate                                     | 10,111'                                   | Gas             |
| MN5  | 10,502'                                   | Gas             |
| TVD =  | 11,102'                                   |                 |
| TD =   | 11,341'                                   |                 |

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

NBU 921-22B Pad Drilling Program 2 of 4

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 5. Drilling Fluids Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 6. Evaluation Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 7. <u>Abnormal Conditions</u>:

#### 7.a Blackhawk (Part of Mesaverde Formation) Target Formation

Maximum anticipated bottom hole pressure calculated at 7,327 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,935 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 10060' TVD, approximately equals 6,438 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,211 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

## 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

## 9. <u>Variances:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

 $Kerr-McGee\ Oil\ \&\ Gas\ Onshore\ LP\ (KMG)\ respectfully\ requests\ a\ variance\ to\ several\ requirements\ associated\ with\ air\ drilling\ outlined\ in\ Onshore\ Order\ 2$ 

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

NBU 921-22B Pad Drilling Program
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This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

NBU 921-22B Pad Drilling Program
4 of 4

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

#### 10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

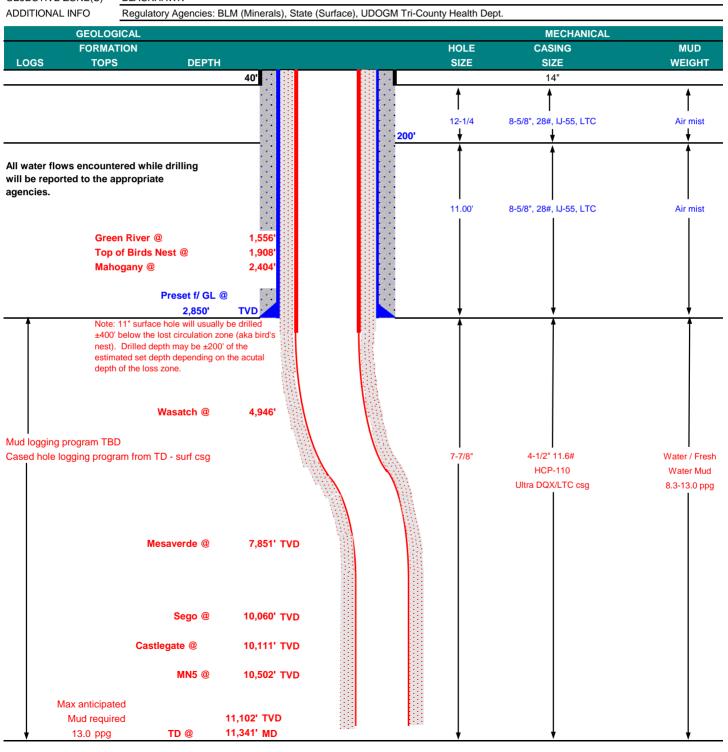
NBU 921-22B Pad Drilling Program

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# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

| COMPANY NAME KER  | R-McGEE OIL & | GAS ONSHORE | E LP      |           | DATE | January 3, | 2012             |            |  |
|---|---------------|-------------|-----------|-----------|------|------------|------------------|------------|--|
| WELL NAME NB  | U 921-22A1S   |             |           |           | TD   | 11,102'    | TVD              | 11,341' MD |  |
| FIELD Natural Butte   | S             | COUNTY      | Uintah    | STATE Uta | h    | FINIS      | SHED ELEVATION _ | 4,816'     |  |
| SURFACE LOCATION  | NWNE          | 943 FNL     | 1835 FEL  | Sec 22    | T 9S | R 21E      |                  |            |  |
|   | Latitude:     | 40.026232   | Longitude | : -109.53 | 4981 |            | NAD 83           |            |  |
| BTM HOLE LOCATION   | NENE          | 386 FNL     | 464 FEL   | Sec 22    | T 9S | R 21E      |                  |            |  |
|   | Latitude:     | 40.027770   | Longitude | : -109.53 | 0094 |            | NAD 83           |            |  |
| OBJECTIVE ZONE(S)   | BLACKHAWK     |             |           |           |      |            | _                |            |  |
| ADDITIONAL INFO Regulatory Agencies: BLM (Minerals), State (Surface), UDOGM Tri-County Health Dept. |               |             |           |           |      | •          |                  |            |  |



NBU 921-22B Pad Drilling Program
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### KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

**DESIGN FACTORS CASING PROGRAM** LTC DQX BURST **COLLAPSE TENSION** SIZE. INTERVAL WT GR. **CPLG** 0-40 CONDUCTOR 14' 3,390 348,000 N/A 1,880 **IJ-55 SURFACE** 8-5/8" 0 2,850 28.00 LTC 1.89 1.41 4.98 N/A 10,690 279,000 367,174 **PRODUCTION** 0 5,000 11.60 HCP-110 DQX 4-1/2" to 1.19 1.15 3.48

HCP-110

LTC

1.19

1.15

4.73

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

5,000

to

4-1/2"

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

11.60

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

11,341

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

|                    | FT. OF FILL | DESCRIPTION  | SACKS   | EXCESS | WEIGHT | YIELD |  |  |
|--------------------|-------------|--|---------|--------|--------|-------|--|--|
| SURFACE LEA        | AD 500'     | Premium cmt + 2% CaCl  | 180     | 60%    | 15.80  | 1.15  |  |  |
| Option 1           |             | + 0.25 pps flocele   |         |        |        |       |  |  |
| TOP OUT CMT (6 job | os) 1,200'  | 20 gals sodium silicate + Premium cmt                                    | 270     | 0%     | 15.80  | 1.15  |  |  |
|                    |             | + 2% CaCl + 0.25 pps flocele   |         |        |        |       |  |  |
| SURFACE            |             | NOTE: If well will circulate water to surface, option 2 will be utilized |         |        |        |       |  |  |
| Option 2           | 2,350'      | 65/35 Poz + 6% Gel + 10 pps gilsonite                                    | 220     | 35%    | 11.00  | 3.82  |  |  |
|                    |             | + 0.25 pps Flocele + 3% salt BWOW  |         |        |        |       |  |  |
| TA                 | JL 500'     | Premium cmt + 2% CaCl  | 150     | 35%    | 15.80  | 1.15  |  |  |
|                    |             | + 0.25 pps flocele   |         |        |        |       |  |  |
| TOP OUT CM         | as required | Premium cmt + 2% CaCl  | as req. |        | 15.80  | 1.15  |  |  |
| PRODUCTION LEA     | AD 4,441'   | Premium Lite II +0.25 pps  | 350     | 35%    | 12.00  | 3.38  |  |  |
|                    |             | celloflake + 5 pps gilsonite + 10% gel                                   |         |        |        |       |  |  |
|                    |             | + 0.5% extender  |         |        |        |       |  |  |
| TA                 | 6,900'      | 50/50 Poz/G + 10% salt + 2% gel  | 1,630   | 35%    | 14.30  | 1.31  |  |  |
|                    |             | + 0.1% R-3   |         |        |        |       |  |  |

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

PRODUCTION

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

1 centralizer on the first 3 joints and one every third joint thereafter.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

| Surveys wi | ill be taken | at 1,000' | minimum | intervals |
|------------|--------------|-----------|---------|-----------|

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized

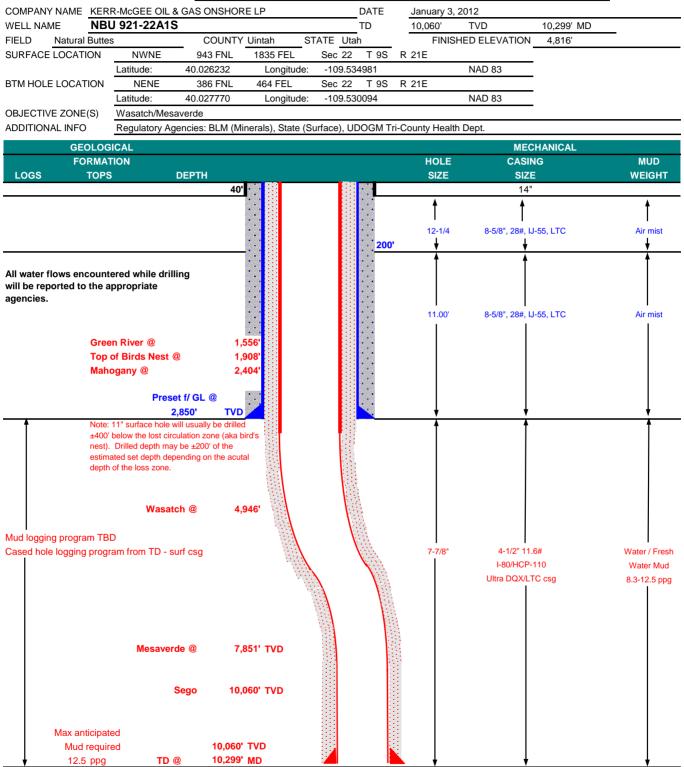
|          | Most rigs have i vi System for muc | Thorntoning. If no r v r is available, visual monitoning will be utilized. |       |  |
|----------|------------------------------------|--|-------|--|
| DRILLING | ENGINEER:                          |  | DATE: |  |
|          |                                    | Nick Spence / Danny Showers / Chad Loesel                                  | •     |  |
| DRILLING | SUPERINTENDENT:                    |  | DATE: |  |
|          |                                    | Kenny Gathings / Lovel Young   | •     |  |

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

NBU 921-22B Pad Drilling Program
1 of 2



# KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM



NBU 921-22B Pad **Drilling Program** 2 of 2



## KERR-McGEE OIL & GAS ONSHORE LP

WASATCH/MESAVERDE DRILLING PROGRAM

### **CASING PROGRAM**

CONDUCTOR

SURFACE **PRODUCTION** 

|        |          |    |         |       |         |                |        |         | LTC     | DQX     |
|--------|----------|----|---------|-------|---------|----------------|--------|---------|---------|---------|
| SIZE   | INTERVAL |    | WT.     | GR.   | CPLG.   | BURST COLLAPSE |        | TENSION |         |         |
| 14"    | 0-40'    |    |         |       |         |                |        |         |         |         |
|        |          |    |         |       |         |                | 3,390  | 1,880   | 348,000 | N/A     |
| 8-5/8" | 0        | to | 2,850   | 28.00 | IJ-55   | LTC            | 1.89   | 1.41    | 4.98    | N/A     |
|        |          |    |         |       |         |                | 7,780  | 6,350   |         | 267,035 |
| 4-1/2" | 0        | to | 5,000   | 11.60 | I-80    | DQX            | 1.11   | 0.97    |         | 2.76    |
|        |          |    |         |       |         |                | 10,690 | 8,650   | 223,000 |         |
| 4-1/2" | 5,000    | to | 10,299' | 11.60 | HCP-110 | LTC            | 1.53   | 1.32    | 4.48    |         |

**Surface Casing:** 

(Burst Assumptions: TD =

12.5

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above (Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**DESIGN FACTORS** 

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @

7000

0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

|                      | FT. OF FILL | DESCRIPTION                            | SACKS        | EXCESS        | WEIGH    | łT | YIELD |
|----------------------|-------------|--|--------------|---------------|----------|----|-------|
| SURFACE LEAD         | 500'        | Premium cmt + 2% CaCl                  | 180          | 60%           | 15.80    |    | 1.15  |
| Option 1             |             | + 0.25 pps flocele                     |              |               |          |    |       |
| TOP OUT CMT (6 jobs) | 1,200'      | 20 gals sodium silicate + Premium cmt  | 270          | 0%            | 15.80    |    | 1.15  |
|                      |             | + 2% CaCl + 0.25 pps flocele           |              |               |          |    |       |
| SURFACE              |             | NOTE: If well will circulate water to  | surface, opt | ion 2 will be | utilized |    |       |
| Option 2 LEAD        | 2,350'      | 65/35 Poz + 6% Gel + 10 pps gilsonite  | 220          | 35%           | 11.00    |    | 3.82  |
|                      |             | + 0.25 pps Flocele + 3% salt BWOW      |              |               |          |    |       |
| TAIL                 | 500'        | Premium cmt + 2% CaCl                  | 150          | 35%           | 15.80    |    | 1.15  |
|                      |             | + 0.25 pps flocele                     |              |               |          |    |       |
| TOP OUT CMT          | as required | Premium cmt + 2% CaCl                  | as req.      |               | 15.80    |    | 1.15  |
| PRODUCTION LEAD      | 4,439'      | Premium Lite II +0.25 pps              | 350          | 35%           | 12.00    |    | 3.38  |
|                      |             | celloflake + 5 pps gilsonite + 10% gel |              |               |          |    |       |
|                      |             | + 0.5% extender                        |              |               |          |    |       |
| TAIL                 | 5,860'      | 50/50 Poz/G + 10% salt + 2% gel        | 1,380        | 35%           | 14.30    |    | 1.31  |
|                      |             | + 0.1% R-3                             |              |               |          |    |       |

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

**SURFACE** 

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

**PRODUCTION** 

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

1 centralizer on the first 3 joints and one every third joint thereafter.

#### **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

|  | Survey | s will | be | taken | at 1 | ,000' | minimum | intervals. |
|--|--------|--------|----|-------|------|-------|---------|------------|
|--|--------|--------|----|-------|------|-------|---------|------------|

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

| DRILLING | ENGINEER: |
|----------|-----------|
|          |           |

| Nick Spence / | Danny | Showers | / Chad | Loesel |
|---------------|-------|---------|--------|--------|
|               |       |         |        |        |

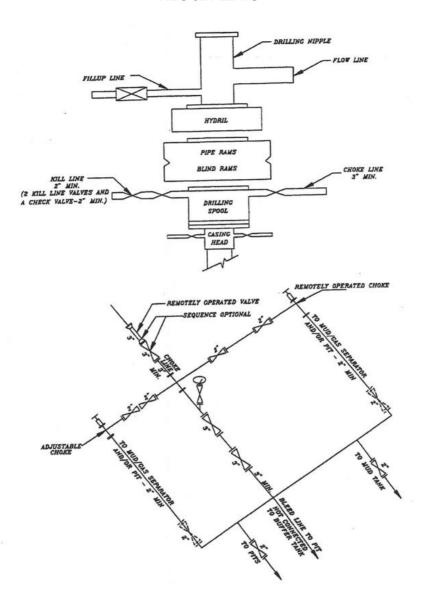
| DATE: |  |  |  |
|-------|--|--|--|
|       |  |  |  |
| DATE: |  |  |  |

DRILLING SUPERINTENDENT:

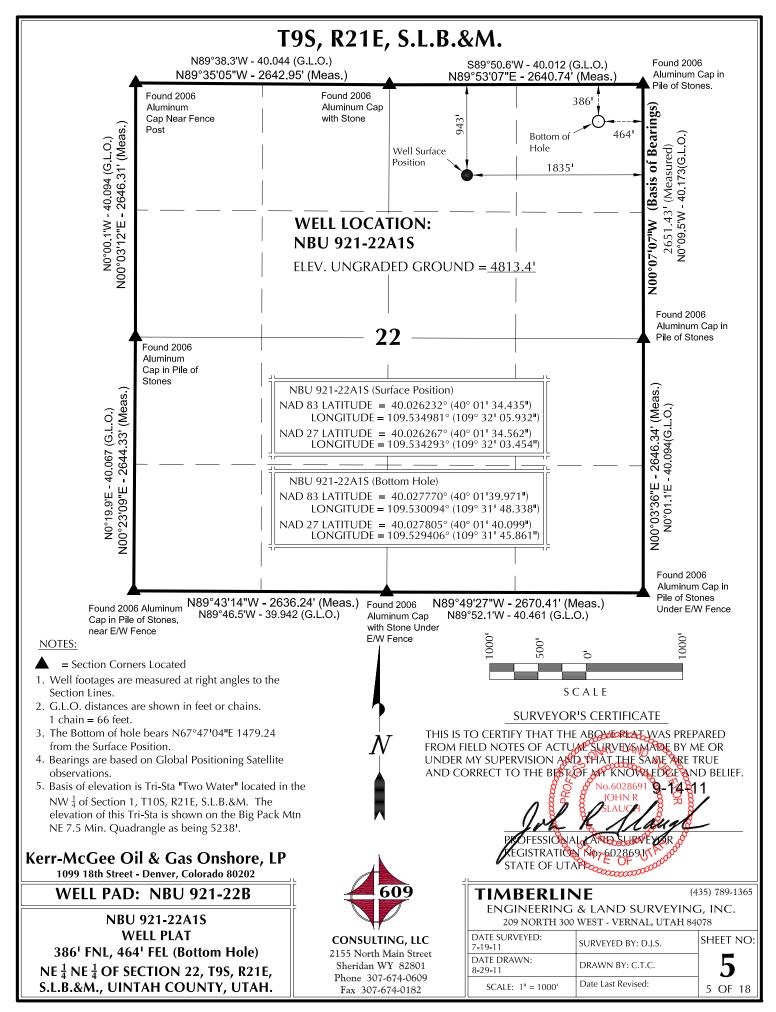
Kenny Gathings / Lovel Young

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

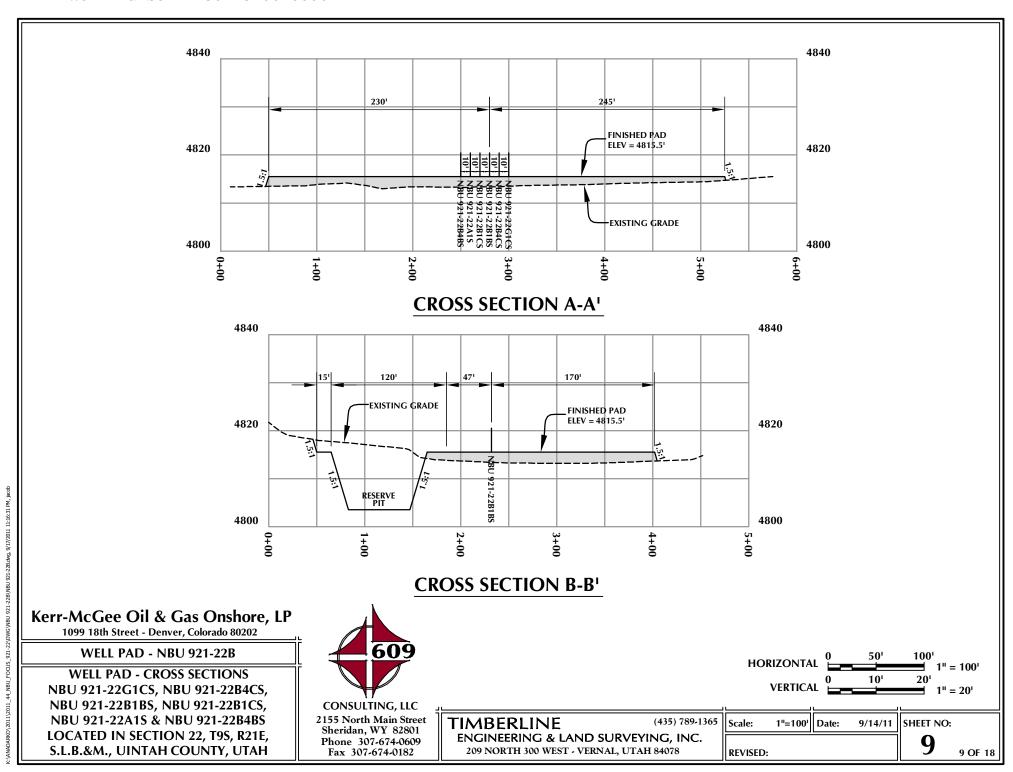
EXHIBIT A NBU 921-22A1S



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



| WELL NAME                                     | h i   | AD02   | SURFACE PC  |             |   | BOTTOM HOLE NAD83 NAD27  |   |   |   |  |                         |
|---|---|--|---|-------------|---|--|---|---|---|--|-------------------------|
| WELL NAME                                     | LATITUDE  | AD83<br>LONGITU  | UDE LATITU  | NAD2<br>JDE | 27<br>Longitude   | FOOTAGES   | LATITUDE  | LONGITUDE   | LATITUDE  |  | FOOTAGES                |
| NBU   | 40°01'34.13   | 6" 109°32'06.  | .268" 40°01'34  | I.263" 1    | 109°32'03.790"  | 973' FNL   | 40°01'28.197'   | 109°32'05.695"  | 40°01'28.324"   | 109°32'03.218"   | 1574' FNL               |
| 921-22G1CS<br>NBU                             | 40.026149°<br>40°01'34.21                             | 109.53507<br>1" 109°32'06.   |   |             | 109.534386°<br>109°32'03.707"   | 1861' FEL<br>965' FNL  | 40.024499°<br>40°01'31.467'   | 109.534915°<br>109°32'05.720"   | 40.024534°<br>40°01'31 594"   | 109.534227°<br>109°32'03.243"  | 1818' FEL<br>1243' FNL  |
| 921-22B4CS                                    | 40.026170°  | 109.53505  | 1° 40.0262  | 05° 1       | 109°32'03.707"<br>109.534363°   | 1854 FEL   | 40.025408°  | 109.534922°   | 40.025443°  | 109.534234°  | 1243 FNL<br>1819 FEL    |
| NBU<br>921-22B1BS                             | 40°01'34.286<br>40.026191°                            | 6" 109°32'06.<br>109.53502   | <b>I</b>  |             | 109°32'03.623"<br>109.534340°   | 958' FNL<br>1848' FEL  | 40°01'41.288'<br>40.028136°   | 109°32'05.757"<br>109.534933°   | 40°01'41.415"<br>40.028171°   | 109°32'03.280"<br>109.534244°  | 249' FNL<br>1819' FEL   |
| NBU   | 40°01'34.36   |  |   |             | 109.334340<br>109°32'03.539"  | 950' FNL   | 40°01'38.028'   |   |   | 109.334244<br>109°32'03.268"   | 579' FNL                |
| 921-22B1CS                                    | 40.026211°<br>40°01'34.43                             | 109.53500  |   |             | 109.534316°   | 1841 FEL   | 40.027230°  | 109.534929°   | 40.027265°  | 109.534241°  | 1819' FEL               |
| NBU<br>921-22A1S                              | 40°01°34.433<br>40.026232°                            | 5" 109°32'05.<br>109.53498   | <b>I</b>  |             | 109°32'03.454"<br>109.534293°   | 943' FNL<br>1835' FEL  | 40°01'39.971'<br>40.027770°   | 109°31'48.338"<br>109.530094°   | 40°01°40.099°<br>40.027805°   | 109°31'45.861"<br>109.529406°  | 386' FNL<br>464' FEL    |
| NBU<br>004, 00P 4PC                           | 40°01'34.510  |  |   |             | 109°32'03.371"  | 935' FNL   | 40°01'34.747'   |   |   | 109°32'03.255"   | 911' FNL                |
| 921-22B4BS<br>NBU 197                         | 40.026253°<br>40°01'34.130                            | 109.53495<br>0" 109°32'04.   |   |             | <u>109.534270°</u><br>109°32'02.041"  | 1828' FEL<br>974' FNL  | 40.026319°  | 109.534926°   | 40.026354°  | 109.534238°  | 1819' FEL               |
|   | 40.026147°  | 109.53458  |   | I           | 109.533900°   | 1725' FEL  |   |   |   |  |                         |
|   |   |  |   | _           |   |  | Position to Bot   |   | II  |  |                         |
| NBU NAME                                      | NORTH   | EAST   | NBU NAME  |             | RTH EAS   | NIDII  | NAME NOI  |   | WELL NAM<br>NBU   |  | EAST                    |
| 921-22G1CS                                    | -601.21   | 44.1'  | 921-22B4CS  | -27         | 77.7' 35.   | 921-22   | 2 <b>B1BS</b> 708   | 3.7' 27.2'  | 921-22B1C   | s 371.1'   | 21.4                    |
| WELL NAME                                     | NORTH   | EAST   | WELL NAME   | NO          | RTH EAS   | ST   |   | _   |   |  |                         |
| NBU<br>921-22A1S                              | 559.3'  | 1369.4'  | NBU<br>921-22B4BS   | 24          | 4.0' 9.0  | '  |   |   |   |  |                         |
|   |   |  |   |             | 1 H   | - 709.21<br> <br> 7'54"E - 3;  | Bottom Hole)  |   | /   | <b>"</b>   |                         |
|   | SCAL  | . E  | ,09   |             | (To Bottom H. AZ=2.2019   | NBU 921  | AZ=20.549  O'32'57"E - FO Bottom O Hole  BU 921-22 U 921-22A 921-22B1C 1-22B1BS -22B4CS Az 2G1CS Az                           | <b>1S</b> Az. to Exist. <b>S</b> Az. to Exist. <b>N</b> Az. to Exist. <b>W</b>  | 7=67.78444<br>7-67.78454<br>70 Bottom F<br>To Bottom F<br>W.H.=110<br>W.H.=101.385<br>V.H.=97.36611<br>• EXISTING<br>=93.67806° 12  | 0.45389° 110.4'<br>583° 114.3'<br>500° 118.9'<br>° 124.1'<br><b>G WELL: NE</b><br>29.9'  |                         |
| Kerr-McC<br>1099 1<br>WEL<br>WELLS - N        | Gee Oil 8th Street - D LL PAD NBU 921-22              | & Gas Coenver, Color NBU 92 TERFEREN G1CS, NBU   | Onshore, rado 80202 21-22B NCE PLAT J 921-22840                               | LP          | (To Bottom Hole)<br>AZ=175.80833°<br>SO4°11'30"E - 602.78'<br>Z                               | SO7°21'23"E - 280.04' RAN SO7°21'23"E - 280. | AZ=20.549  932'57"E  To Bottom of Hole  BU 921-22  U 921-22A  921-22B1C  1-22B4CS Az  2 G1CS Az                               | B4BS Az. to Exist. V Az. to Exist. W.H.= to Exist. W.H.= ENGINEERIN 209 NORTH:  | Z=67.78444<br>Z=67.78444<br>To Bottom F<br>To Bottom F<br>W.H.=1105.75:<br>W.H.=101.385<br>V.H.=97.36611<br>■ EXISTING<br>=93.67806° 136<br>90.32750° 136   | 0.45389° 110.4'<br>583° 114.3'<br>500° 118.9'<br>° 124.1'<br><b>G WELL: NB</b><br>29.9'<br>5.1'<br>(4:<br>SURVEYINC<br>RNAL, UTAH 840  | 35) 789-1365<br>i, INC. |
| Kerr-McC<br>1099 1<br>WEL<br>WELLS - N<br>NBU | Gee Oil<br>8th Street - D<br>LL PAD -                 | & Gas Coenver, Color NBU 92 TERFEREN G1CS, NBU S, NBU 921  | Onshore,<br>rado 80202<br>21-22B<br>NCE PLAT<br>J 921-22B4C<br>1-22B1CS,      | LP          | (To Bottom Hole) AZ=175.80833° (To Bottom H AZ=2.2019 Z S S S S S S S S S S S S S S S S S S S | SO7°21'23"E - 280.04' DRN SO7°21'23"E - 280. | AZ=20.549  232'57"E  To Bottom of Hole  BU 921-22  U 921-22A  921-22B1C  21-22B1CS  Az  C  C  C  C  C  C  C  C  C  C  C  C  C | B4BS Az. to Exist. W.H.= 9  IMBERL ENGINEERIN 209 NORTH: ESURVEYED: 117 EDRAWN: | INE  INE  INE  ING & LAND  300 WEST - VER   | 0.45389° 110.4' 583° 114.3' 500° 118.9' ° 124.1' <b>G WELL: NB</b> 29.9' 5.1'  (4: SURVEYINC RNAL, UTAH 846 BY: D.J.S.                 | 35) 789-1365<br>i, INC. |
| WELL WELLS - N NBU NBU LOCA                   | Gee Oil 8th Street - D L PAD INT NBU 921-22 921-22B1B | & Gas Coenver, Color NBU 92 TERFEREN G1CS, NBU 92 8, NBU 92 1, WBU | Onshore, rado 80202 21-22B NCE PLAT J 921-22B4C 1-22B1CS, 1-22B4BS T9S, R21E, | LP          | (To Bottom Hole) AZ=175.80833° AZ=175.80833° Solver 11.30"E - 602.78" AZ=2.2019               | SO7°21'23"E - 280.04' RAN SO7°21'23"E - 280. | AZ=20.549  2°32'57"E  Fo Bottom of Hole  BU 921-22 U 921-22A 921-22B1BS  -22B4CS Az  C DAT 7-19  DAT 7-19 1 Bottom of Hole    | B4BS Az. to Exist. W.H.= 9  IMBERL ENGINEERIN 209 NORTH: ESURVEYED: 117 EDRAWN: | INE  INE  INE  SURVEYED B  A710A*E  1.00A*E  1. | 0.45389° 110.4' 583° 114.3' 500° 118.9' ° 124.1' <b>G WELL: NB</b> 29.9' 5.1'  (4: SURVEYINC RNAL, UTAH 840 BY: D.J.S. : C.T.C. vised: | 35) 789-136.<br>i, INC. |



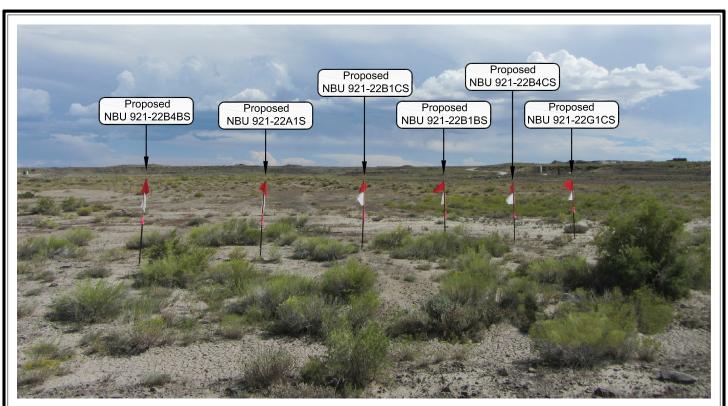


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: SOUTHEASTERLY** 



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

**CAMERA ANGLE: SOUTHWESTERLY** 

## Kerr-McGee Oil & Gas Onshore, LP

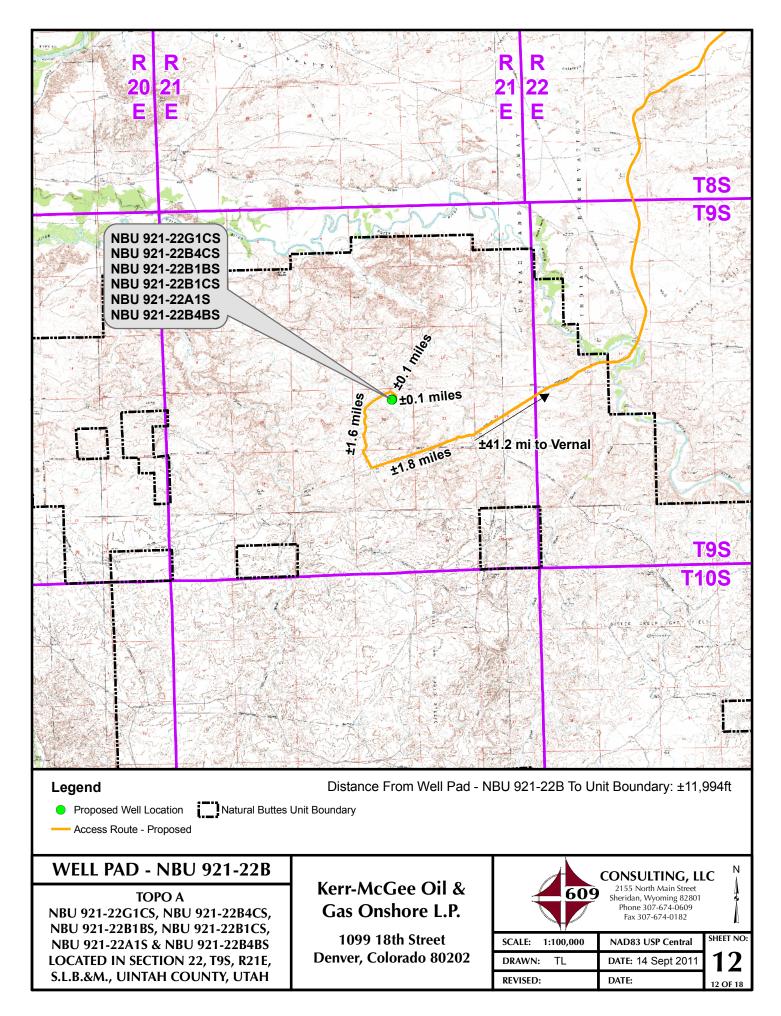
## **WELL PAD - NBU 921-22B**

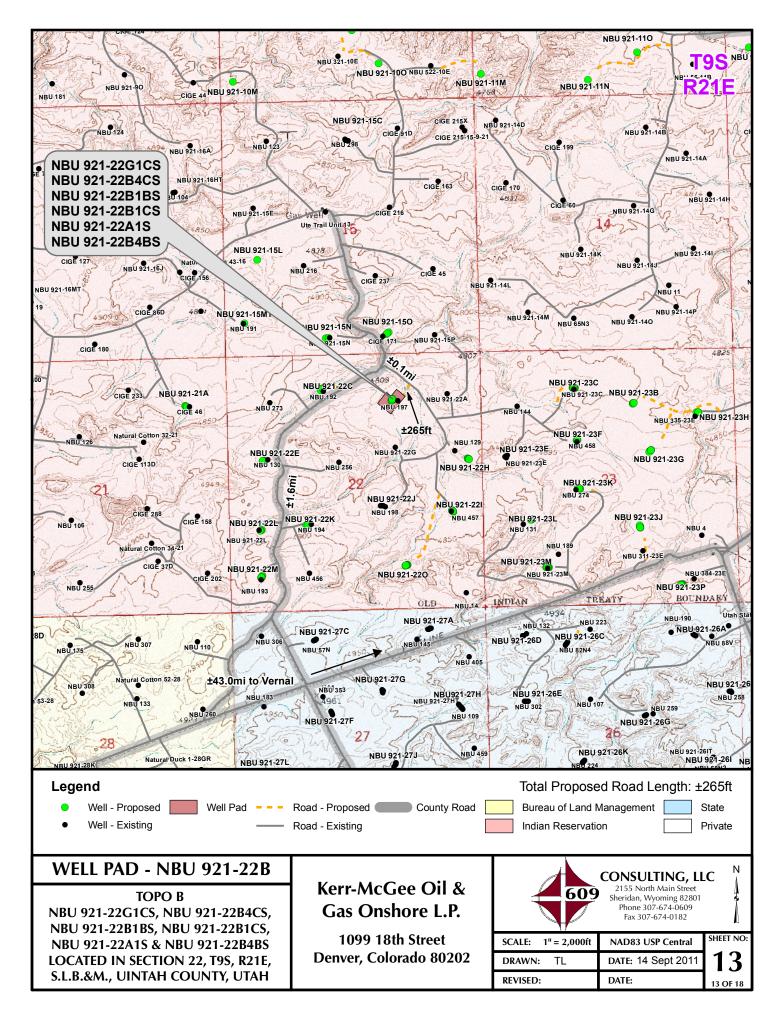
LOCATION PHOTOS NBU 921-22G1CS, NBU 921-22B4CS, NBU 921-22B1BS, NBU 921-22B1CS, NBU 921-22A1S & NBU 921-22B4BS, LOCATED IN SECTION 22, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

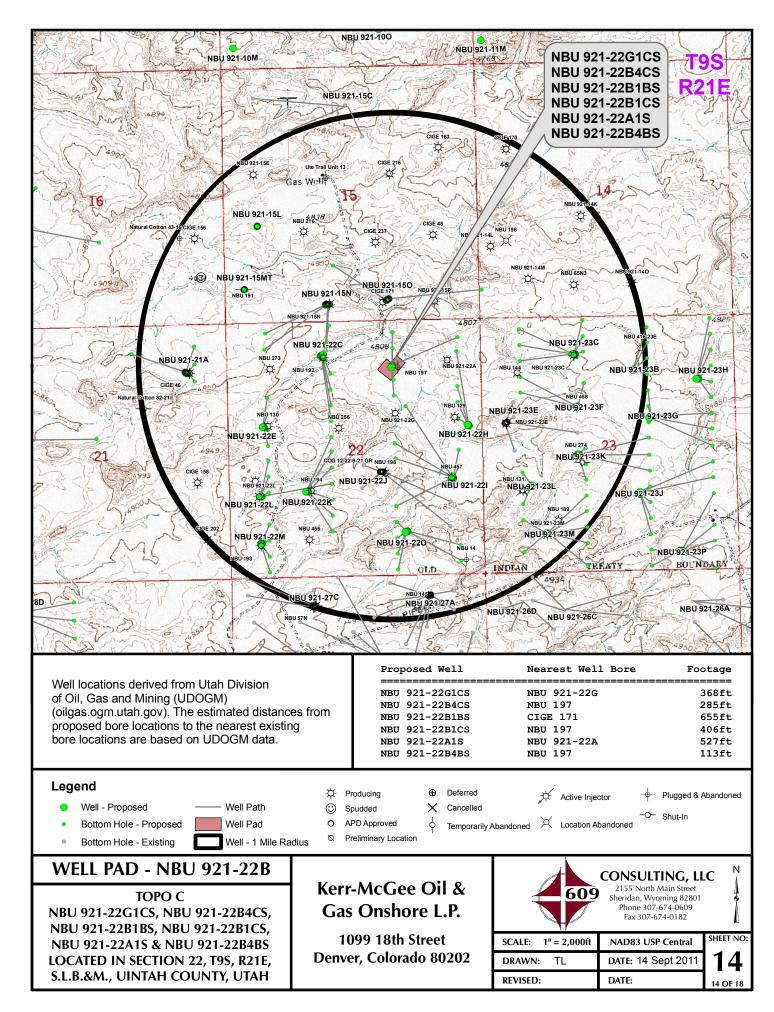


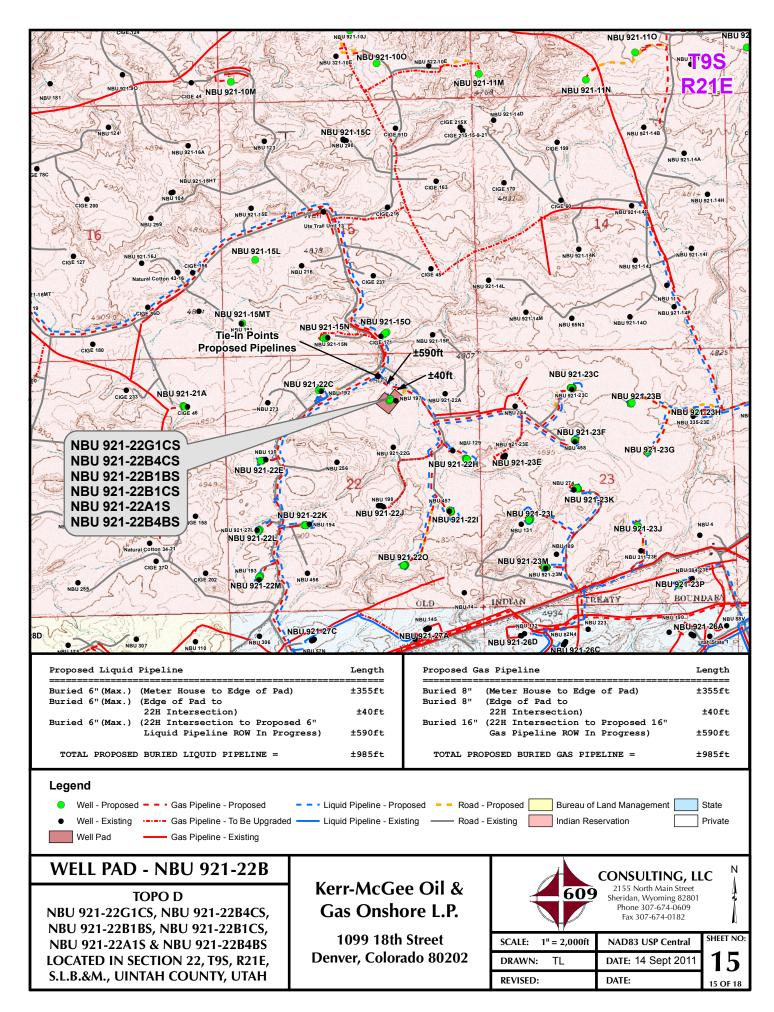
#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

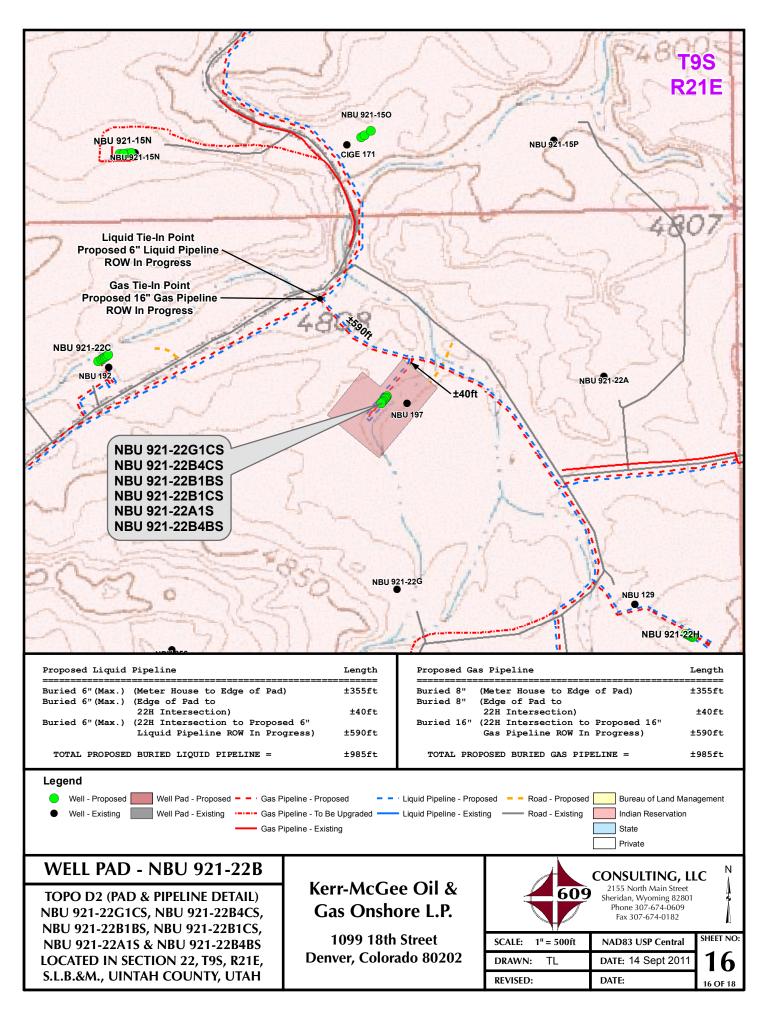
| TIMBERLIN                  | JE (4                                      | 35) 789-1365 |
|----------------------------|--|--------------|
|                            | & LAND SURVEYING<br>WEST - VERNAL, UTAH 84 | •            |
| DATE PHOTOS TAKEN: 7-19-11 | PHOTOS TAKEN BY: D.J.S.                    | SHEET NO:    |
| DATE DRAWN:<br>8-29-11     | DRAWN BY: C.T.C.                           | 11           |
| Date Last Revised:         |  | 11 OF 18     |

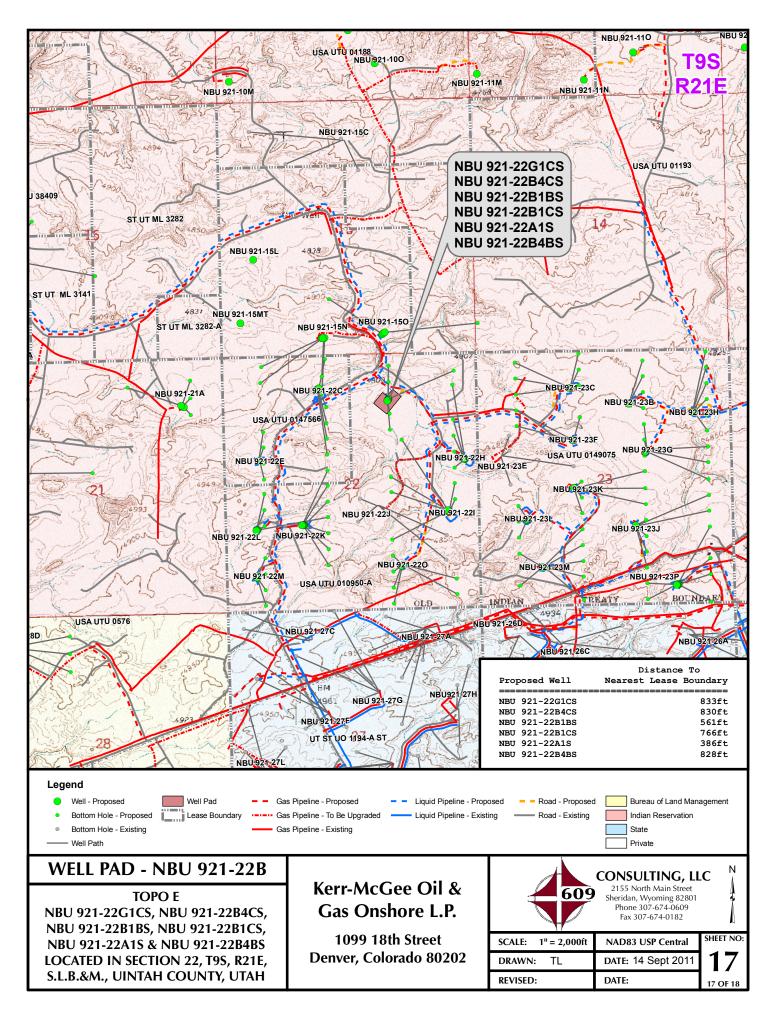












Kerr-McGee Oil & Gas Onshore, LP WELL PAD - NBU 921-22B WELLS - NBU 921-22G1CS, NBU 921-22B4CS, NBU 921-22B1BS, NBU 921-22B1CS, NBU 921-22A1S & NBU 921-22B4BS Section 22, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 1.8 miles to a second Class D County Road to the north. Exit right and proceed in a northerly direction along the second Class D County Road approximately 1.6 miles to an existing service road to the southeast. Exit right and proceed in a southeasterly direction along the service road approximately 0.1 miles to the proposed access road. Follow road flags in a southwesterly direction approximately 265 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 44.7 miles in a southerly direction.

**SHEET 18 OF 18** 

API Well Number: 43047 Project. Outland - UTM (feet), NAD27, Zone 12N

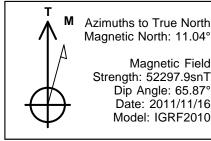
Scientific Drilling
Rocky Mountain Operations

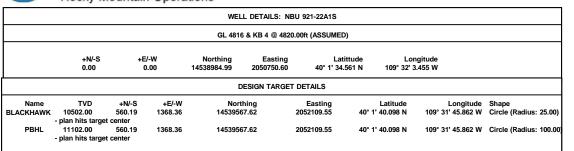
Site: NBU 921-22B PAD Well: NBU 921-22A1S

Wellbore: OH

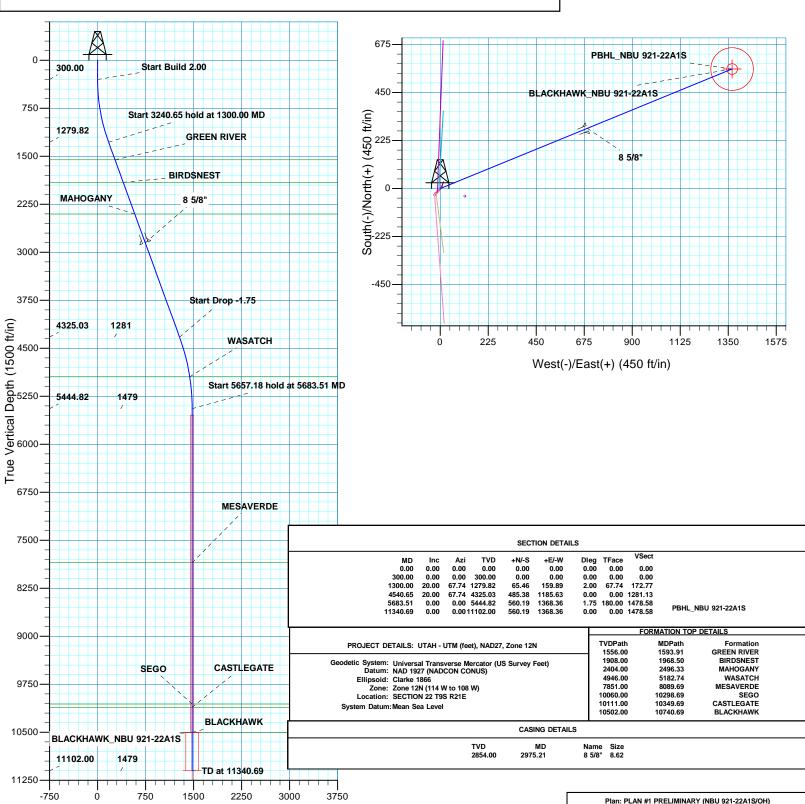
Design: PLAN #1 PRELIMINARY







Vertical Section at 67.74° (1500 ft/in)





## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 921-22B PAD NBU 921-22A1S

OH

Plan: PLAN #1 PRELIMINARY

## **Standard Planning Report**

16 November, 2011



RECEIVED: April 20, 2012



## SDI Planning Report



EDM5000-RobertS-Local Database:

Company: US ROCKIES REGION PLANNING Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: NBU 921-22B PAD Well: NBU 921-22A1S

Wellbore: ОН

PLAN #1 PRELIMINARY Design:

**Local Co-ordinate Reference:** 

**TVD Reference:** MD Reference: North Reference:

**Survey Calculation Method:** 

Well NBU 921-22A1S

GL 4816 & KB 4 @ 4820.00ft (ASSUMED) GL 4816 & KB 4 @ 4820.00ft (ASSUMED)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Geo Datum: Zone 12N (114 W to 108 W) Map Zone:

Mean Sea Level

NBU 921-22B PAD, SECTION 22 T9S R21E Site

Northing: 14,538,985.00 usft Site Position: Latitude: 40° 1' 34.561 N From: Lat/Long Easting: 2,050,750.59 usft Longitude: 109° 32' 3.455 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.94 13.20 in

System Datum:

Well NBU 921-22A1S, 943 FNL 1835 FEL

**Well Position** +N/-S 0.00 ft 14,538,985.00 usft Latitude: 40° 1' 34.561 N Northing: +E/-W 0.00 ft Easting: 2,050,750.59 usft Longitude: 109° 32' 3.455 W

**Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 4,816.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 2011/11/16 11.04 65.87 52.298

PLAN #1 PRELIMINARY Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 67.74

| Plan Sections             |                    |                |                           |               |               |                             |                            |                           |            |                 |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|----------------------------|---------------------------|------------|-----------------|
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) | TFO<br>(°) | Target          |
| 0.00                      | 0.00               | 0.00           | 0.00                      | 0.00          | 0.00          | 0.00                        | 0.00                       | 0.00                      | 0.00       |                 |
| 300.00                    | 0.00               | 0.00           | 300.00                    | 0.00          | 0.00          | 0.00                        | 0.00                       | 0.00                      | 0.00       |                 |
| 1,300.00                  | 20.00              | 67.74          | 1,279.82                  | 65.46         | 159.89        | 2.00                        | 2.00                       | 0.00                      | 67.74      |                 |
| 4,540.65                  | 20.00              | 67.74          | 4,325.03                  | 485.38        | 1,185.63      | 0.00                        | 0.00                       | 0.00                      | 0.00       |                 |
| 5,683.51                  | 0.00               | 0.00           | 5,444.82                  | 560.19        | 1,368.36      | 1.75                        | -1.75                      | 0.00                      | 180.00     |                 |
| 11,340.69                 | 0.00               | 0.00           | 11,102.00                 | 560.19        | 1,368.36      | 0.00                        | 0.00                       | 0.00                      | 0.00 P     | BHL_NBU 921-22A |



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

Project:UTAH - UTM (feet),Site:NBU 921-22B PAD

Well: NBU 921-22A1S

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22A1S

GL 4816 & KB 4 @ 4820.00ft (ASSUMED) GL 4816 & KB 4 @ 4820.00ft (ASSUMED)

True

| sign:                     | PLAN #1 PRE          | LIMINART             |                           |                      |                      |                             |                             |                            |                           |
|---------------------------|----------------------|----------------------|---------------------------|----------------------|----------------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| nned Survey               |                      |                      |                           |                      |                      |                             |                             |                            |                           |
| Measured<br>Depth<br>(ft) | Inclination<br>(°)   | Azimuth<br>(°)       | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft)        | +E/-W<br>(ft)        | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) |
| 0.00<br>100.00<br>200.00  | 0.00<br>0.00<br>0.00 | 0.00<br>0.00<br>0.00 | 0.00<br>100.00<br>200.00  | 0.00<br>0.00<br>0.00 | 0.00<br>0.00<br>0.00 | 0.00<br>0.00<br>0.00        | 0.00<br>0.00<br>0.00        | 0.00<br>0.00<br>0.00       | 0.00<br>0.00<br>0.00      |
| 300.00                    | 0.00                 | 0.00                 | 300.00                    | 0.00                 | 0.00                 | 0.00                        | 0.00                        | 0.00                       | 0.00                      |
| Start Build 2             |                      |                      |                           |                      |                      |                             |                             |                            |                           |
| 400.00                    | 2.00                 | 67.74                | 399.98                    | 0.66                 | 1.62                 | 1.75                        | 2.00                        | 2.00                       | 0.00                      |
| 500.00                    | 4.00                 | 67.74                | 499.84                    | 2.64                 | 6.46                 | 6.98                        | 2.00                        | 2.00                       | 0.00                      |
| 600.00                    | 6.00                 | 67.74                | 599.45                    | 5.95                 | 14.52                | 15.69                       | 2.00                        | 2.00                       | 0.00                      |
| 700.00                    | 8.00                 | 67.74                | 698.70                    | 10.56                | 25.80                | 27.88                       | 2.00                        | 2.00                       | 0.00                      |
| 800.00                    | 10.00                | 67.74                | 797.47                    | 16.49                | 40.28                | 43.52                       | 2.00                        | 2.00                       | 0.00                      |
| 900.00                    | 12.00                | 67.74                | 895.62                    | 23.72                | 57.94                | 62.60                       | 2.00                        | 2.00                       | 0.00                      |
| 1,000.00                  | 14.00                | 67.74                | 993.06                    | 32.24                | 78.75                | 85.10                       | 2.00                        | 2.00                       | 0.00                      |
| 1,100.00                  | 16.00                | 67.74                | 1,089.64                  | 42.05                | 102.70               | 110.98                      | 2.00                        | 2.00                       | 0.00                      |
| 1,200.00                  | 18.00                | 67.74                | 1,185.27                  | 53.12                | 129.76               | 140.21                      | 2.00                        | 2.00                       | 0.00                      |
| 1,300.00                  | 20.00                | 67.74                | 1,279.82                  | 65.46                | 159.89               | 172.77                      | 2.00                        | 2.00                       | 0.00                      |
|                           | 65 hold at 1300.00   |                      |                           |                      |                      |                             |                             |                            |                           |
| 1,400.00                  | 20.00                | 67.74                | 1,373.78                  | 78.41                | 191.54               | 206.97                      | 0.00                        | 0.00                       | 0.00                      |
| 1,500.00                  | 20.00                | 67.74                | 1,467.75                  | 91.37                | 223.19               | 241.17                      | 0.00                        | 0.00                       | 0.00                      |
| 1,593.91                  | 20.00                | 67.74                | 1,556.00                  | 103.54               | 252.92               | 273.29                      | 0.00                        | 0.00                       | 0.00                      |
| GREEN RIV                 | ER                   |                      |                           |                      |                      |                             |                             |                            |                           |
| 1,600.00                  | 20.00                | 67.74                | 1,561.72                  | 104.33               | 254.85               | 275.37                      | 0.00                        | 0.00                       | 0.00                      |
| 1,700.00                  | 20.00                | 67.74                | 1,655.69                  | 117.29               | 286.50               | 309.58                      | 0.00                        | 0.00                       | 0.00                      |
| 1,800.00                  | 20.00                | 67.74                | 1,749.66                  | 130.25               | 318.15               | 343.78                      | 0.00                        | 0.00                       | 0.00                      |
| 1,900.00                  | 20.00                | 67.74                | 1,843.63                  | 143.20               | 349.80               | 377.98                      | 0.00                        | 0.00                       | 0.00                      |
| 1,968.50                  | 20.00                | 67.74                | 1,908.00                  | 152.08               | 371.48               | 401.41                      | 0.00                        | 0.00                       | 0.00                      |
| BIRDSNEST                 | Γ                    |                      |                           |                      |                      |                             |                             |                            |                           |
| 2,000.00                  | 20.00                | 67.74                | 1,937.60                  | 156.16               | 381.45               | 412.18                      | 0.00                        | 0.00                       | 0.00                      |
| 2,100.00                  | 20.00                | 67.74                | 2,031.57                  | 169.12               | 413.11               | 446.38                      | 0.00                        | 0.00                       | 0.00                      |
| 2,200.00                  | 20.00                | 67.74                | 2,125.54                  | 182.08               | 444.76               | 480.59                      | 0.00                        | 0.00                       | 0.00                      |
| 2,300.00                  | 20.00                | 67.74                | 2,219.51                  | 195.04               | 476.41               | 514.79                      | 0.00                        | 0.00                       | 0.00                      |
| 2,400.00                  | 20.00                | 67.74                | 2,313.48                  | 207.99               | 508.06               | 548.99                      | 0.00                        | 0.00                       | 0.00                      |
| 2,496.33                  | 20.00                | 67.74                | 2,404.00                  | 220.48               | 538.55               | 581.94                      | 0.00                        | 0.00                       | 0.00                      |
| MAHOGAN                   | Υ                    |                      |                           |                      |                      |                             |                             |                            |                           |
| 2,500.00                  | 20.00                | 67.74                | 2,407.45                  | 220.95               | 539.72               | 583.19                      | 0.00                        | 0.00                       | 0.00                      |
| 2,600.00                  | 20.00                | 67.74                | 2,501.42                  | 233.91               | 571.37               | 617.39                      | 0.00                        | 0.00                       | 0.00                      |
| 2,700.00                  | 20.00                | 67.74                | 2,595.39                  | 246.87               | 603.02               | 651.60                      | 0.00                        | 0.00                       | 0.00                      |
| 2,800.00                  | 20.00                | 67.74                | 2,689.35                  | 259.83               | 634.67               | 685.80                      | 0.00                        | 0.00                       | 0.00                      |
| 2,900.00                  | 20.00                | 67.74                | 2,783.32                  | 272.78               | 666.32               | 720.00                      | 0.00                        | 0.00                       | 0.00                      |
| 2,975.21                  | 20.00                | 67.74                | 2,854.00                  | 282.53               | 690.13               | 745.72                      | 0.00                        | 0.00                       | 0.00                      |
| 8 5/8"                    |                      |                      |                           |                      |                      |                             |                             |                            |                           |
| 3,000.00                  | 20.00                | 67.74                | 2,877.29                  | 285.74               | 697.98               | 754.20                      | 0.00                        | 0.00                       | 0.00                      |
| 3,100.00                  | 20.00                | 67.74                | 2,971.26                  | 298.70               | 729.63               | 788.40                      | 0.00                        | 0.00                       | 0.00                      |
| 3,200.00                  | 20.00                | 67.74                | 3,065.23                  | 311.66               | 761.28               | 822.61                      | 0.00                        | 0.00                       | 0.00                      |
| 3,300.00                  | 20.00                | 67.74                | 3,159.20                  | 324.62               | 792.93               | 856.81                      | 0.00                        | 0.00                       | 0.00                      |
| 3,400.00                  | 20.00                | 67.74                | 3,253.17                  | 337.57               | 824.59               | 891.01                      | 0.00                        | 0.00                       | 0.00                      |
| 3,500.00                  | 20.00                | 67.74                | 3,347.14                  | 350.53               | 856.24               | 925.21                      | 0.00                        | 0.00                       | 0.00                      |
| 3,600.00                  | 20.00                | 67.74                | 3,441.11                  | 363.49               | 887.89               | 959.41                      | 0.00                        | 0.00                       | 0.00                      |
| 3,700.00                  | 20.00                | 67.74                | 3,535.08                  | 376.45               | 919.54               | 993.62                      | 0.00                        | 0.00                       | 0.00                      |
| 3,800.00                  | 20.00                | 67.74                | 3,629.05                  | 389.41               | 951.20               | 1,027.82                    | 0.00                        | 0.00                       | 0.00                      |
| 3,900.00                  | 20.00                | 67.74                | 3,723.02                  | 402.36               | 982.85               | 1,062.02                    | 0.00                        | 0.00                       | 0.00                      |
| 4,000.00                  | 20.00                | 67.74                | 3,816.99                  | 415.32               | 1,014.50             | 1,096.22                    | 0.00                        | 0.00                       | 0.00                      |
| 4,100.00                  | 20.00                | 67.74                | 3,910.95                  | 428.28               | 1,046.15             | 1,130.42                    | 0.00                        | 0.00                       | 0.00                      |
| 4,200.00                  | 20.00                | 67.74                | 4,004.92                  | 441.24               | 1,077.80             | 1,164.63                    | 0.00                        | 0.00                       | 0.00                      |



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22B PAD

 Well:
 NBU 921-22A1S

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22A1S

GL 4816 & KB 4 @ 4820.00ft (ASSUMED) GL 4816 & KB 4 @ 4820.00ft (ASSUMED)

True

| esign.                   |           |                  |                |                           |                  |                      |                             |                             |                            |                           |
|--------------------------|-----------|------------------|----------------|---------------------------|------------------|----------------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| lanned Survey            |           |                  |                |                           |                  |                      |                             |                             |                            |                           |
| Measure<br>Depth<br>(ft) |           | clination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft)    | +E/-W<br>(ft)        | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) |
| 4,300                    | 0.00      | 20.00            | 67.74          | 4,098.89                  | 454.20           | 1,109.46             | 1,198.83                    | 0.00                        | 0.00                       | 0.00                      |
| 4,400                    | 0.00      | 20.00            | 67.74          | 4,192.86                  | 467.15           | 1,141.11             | 1,233.03                    | 0.00                        | 0.00                       | 0.00                      |
| 4,500                    | 0.00      | 20.00            | 67.74          | 4,286.83                  | 480.11           | 1,172.76             | 1,267.23                    | 0.00                        | 0.00                       | 0.00                      |
| 4,540                    | 0.65      | 20.00            | 67.74          | 4,325.03                  | 485.38           | 1,185.63             | 1,281.13                    | 0.00                        | 0.00                       | 0.00                      |
|                          | rop -1.75 |                  |                | ,                         |                  |                      | ,                           |                             |                            |                           |
| 4,600                    | •         | 18.96            | 67.74          | 4,380.98                  | 492.88           | 1,203.95             | 1,300.93                    | 1.75                        | -1.75                      | 0.00                      |
| 4,700                    | 0.00      | 17.21            | 67.74          | 4,476.04                  | 504.64           | 1,232.67             | 1,331.97                    | 1.75                        | -1.75                      | 0.00                      |
| 4,800                    |           | 15.46            | 67.74          | 4,572.00                  | 515.30           | 1,258.70             | 1,360.10                    | 1.75                        | -1.75                      | 0.00                      |
| 4,900                    | 0.00      | 13.71            | 67.74          | 4,668.77                  | 524.84           | 1,282.01             | 1,385.28                    | 1.75                        | -1.75                      | 0.00                      |
| 5,000                    | 0.00      | 11.96            | 67.74          | 4,766.27                  | 533.25           | 1,302.57             | 1,407.50                    | 1.75                        | -1.75                      | 0.00                      |
| 5,100                    | 0.00      | 10.21            | 67.74          | 4,864.40                  | 540.54           | 1,320.36             | 1,426.72                    | 1.75                        | -1.75                      | 0.00                      |
| 5,182                    | 2.74      | 8.76             | 67.74          | 4,946.00                  | 545.71           | 1,332.98             | 1,440.36                    | 1.75                        | -1.75                      | 0.00                      |
| WASAT                    |           |                  |                |                           |                  |                      |                             |                             |                            |                           |
| 5,200                    |           | 8.46             | 67.74          | 4,963.07                  | 546.69           | 1,335.38             | 1,442.95                    | 1.75                        | -1.75                      | 0.00                      |
| 5,300                    | 0.00      | 6.71             | 67.74          | 5,062.19                  | 551.69           | 1,347.59             | 1,456.15                    | 1.75                        | -1.75                      | 0.00                      |
| 5,400                    | 0.00      | 4.96             | 67.74          | 5,161.67                  | 555.54           | 1,357.00             | 1,466.32                    | 1.75                        | -1.75                      | 0.00                      |
| 5,500                    |           | 3.21             | 67.74          | 5,261.41                  | 558.24           | 1,363.60             | 1,473.44                    | 1.75                        | -1.75                      | 0.00                      |
| 5,600                    |           | 1.46             | 67.74          | 5,361.32                  | 559.78           | 1,367.37             | 1,477.52                    | 1.75                        | -1.75                      | 0.00                      |
| 5,683                    |           | 0.00             | 0.00           | 5,444.82                  | 560.19           | 1,368.36             | 1,478.58                    | 1.75                        | -1.75                      | 0.00                      |
|                          |           | d at 5683.51     |                | F 404 04                  | F00.40           | 4 000 00             | 4 470 50                    | 0.00                        | 0.00                       | 0.00                      |
| 5,700                    | ).00      | 0.00             | 0.00           | 5,461.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 5,800                    |           | 0.00             | 0.00           | 5,561.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 5,900                    |           | 0.00             | 0.00           | 5,661.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 6,000                    |           | 0.00             | 0.00           | 5,761.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 6,100<br>6,200           |           | 0.00<br>0.00     | 0.00<br>0.00   | 5,861.31<br>5,961.31      | 560.19<br>560.19 | 1,368.36<br>1,368.36 | 1,478.58<br>1,478.58        | 0.00<br>0.00                | 0.00<br>0.00               | 0.00<br>0.00              |
|                          |           |                  |                |                           |                  |                      |                             |                             |                            |                           |
| 6,300                    |           | 0.00             | 0.00           | 6,061.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 6,400<br>6,500           |           | 0.00<br>0.00     | 0.00<br>0.00   | 6,161.31<br>6,261.31      | 560.19<br>560.19 | 1,368.36<br>1,368.36 | 1,478.58<br>1,478.58        | 0.00<br>0.00                | 0.00<br>0.00               | 0.00<br>0.00              |
| 6,600                    |           | 0.00             | 0.00           | 6,361.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 6,700                    |           | 0.00             | 0.00           | 6,461.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
|                          |           | 0.00             | 0.00           | 6,561.31                  | 560.19           |                      |                             | 0.00                        | 0.00                       | 0.00                      |
| 6,800<br>6,900           |           | 0.00             | 0.00           | 6,661.31                  | 560.19           | 1,368.36<br>1,368.36 | 1,478.58<br>1,478.58        | 0.00                        | 0.00                       | 0.00                      |
| 7,000                    |           | 0.00             | 0.00           | 6,761.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,100                    |           | 0.00             | 0.00           | 6,861.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,200                    |           | 0.00             | 0.00           | 6,961.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,300                    | 0.00      | 0.00             | 0.00           | 7,061.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,400                    |           | 0.00             | 0.00           | 7,161.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,500                    |           | 0.00             | 0.00           | 7,261.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,600                    |           | 0.00             | 0.00           | 7,361.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,700                    | 0.00      | 0.00             | 0.00           | 7,461.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,800                    |           | 0.00             | 0.00           | 7,561.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 7,900                    |           | 0.00             | 0.00           | 7,661.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,000                    |           | 0.00             | 0.00           | 7,761.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,089                    |           | 0.00             | 0.00           | 7,851.00                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| MESAV                    |           |                  |                | 700101                    | mas : s          | 4.000.00             | 4 4== ==                    |                             |                            |                           |
| 8,100                    | 0.00      | 0.00             | 0.00           | 7,861.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,200                    | 0.00      | 0.00             | 0.00           | 7,961.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,300                    |           | 0.00             | 0.00           | 8,061.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,400                    |           | 0.00             | 0.00           | 8,161.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,500                    |           | 0.00             | 0.00           | 8,261.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,600                    |           | 0.00             | 0.00           | 8,361.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,700                    | 0.00      | 0.00             | 0.00           | 8,461.31                  | 560.19           | 1,368.36             | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |



# **SDI**Planning Report



Database: Company: Project: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22B PAD

 Well:
 NBU 921-22A1S

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22A1S

GL 4816 & KB 4 @ 4820.00ft (ASSUMED) GL 4816 & KB 4 @ 4820.00ft (ASSUMED)

True

| ned Survey                |                    |                |                           |               |               |                             |                             |                            |                           |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| neu Survey                |                    |                |                           |               |               |                             |                             |                            |                           |
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) |
| 8,800.00                  | 0.00               | 0.00           | 8,561.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 8,900.00                  | 0.00               | 0.00           | 8,661.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,000.00                  | 0.00               | 0.00           | 8,761.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,100.00                  | 0.00               | 0.00           | 8,861.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,200.00                  | 0.00               | 0.00           | 8,961.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,300.00                  | 0.00               | 0.00           | 9,061.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,400.00                  | 0.00               | 0.00           | 9,161.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,500.00                  | 0.00               | 0.00           | 9,261.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,600.00                  | 0.00               | 0.00           | 9,361.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,700.00                  | 0.00               | 0.00           | 9,461.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,800.00                  | 0.00               | 0.00           | 9,561.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 9,900.00                  | 0.00               | 0.00           | 9,661.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,000.00                 | 0.00               | 0.00           | 9,761.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,100.00                 | 0.00               | 0.00           | 9,861.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,200.00                 | 0.00               | 0.00           | 9,961.31                  | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,298.69                 | 0.00               | 0.00           | 10,060.00                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| SEGO                      |                    |                |                           |               |               |                             |                             |                            |                           |
| 10,300.00                 | 0.00               | 0.00           | 10,061.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,349.69                 | 0.00               | 0.00           | 10,111.00                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| CASTLEGAT<br>10,400.00    | 0.00               | 0.00           | 10,161.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| •                         |                    |                |                           |               |               |                             |                             |                            |                           |
| 10,500.00                 | 0.00               | 0.00           | 10,261.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,600.00                 | 0.00               | 0.00           | 10,361.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,700.00                 | 0.00               | 0.00           | 10,461.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,740.69                 | 0.00               | 0.00           | 10,502.00                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
|                           | K - BLACKHAW       |                |                           | 500.40        | 4 000 00      | 4 470 50                    | 0.00                        | 0.00                       | 0.00                      |
| 10,800.00                 | 0.00               | 0.00           | 10,561.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 10,900.00                 | 0.00               | 0.00           | 10,661.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 11,000.00                 | 0.00               | 0.00           | 10,761.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 11,100.00                 | 0.00               | 0.00           | 10,861.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 11,200.00                 | 0.00               | 0.00           | 10,961.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 11,300.00                 | 0.00               | 0.00           | 11,061.31                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| 11,340.69                 | 0.00               | 0.00           | 11,102.00                 | 560.19        | 1,368.36      | 1,478.58                    | 0.00                        | 0.00                       | 0.00                      |
| DRUI NRII                 | 921-22A1S          |                |                           |               |               |                             |                             |                            |                           |

| Design Targets  |                  |                 |             |               |               |                    |                   |                 |                   |
|---|------------------|-----------------|-------------|---------------|---------------|--------------------|-------------------|-----------------|-------------------|
| Target Name<br>- hit/miss target<br>- Shape                       | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(usft) | Easting<br>(usft) | Latitude        | Longitude         |
| BLACKHAWK_NBU 921 - plan hits target cent - Circle (radius 25.00) |                  | 0.00            | 10,502.00   | 560.19        | 1,368.36      | 14,539,567.62      | 2,052,109.54      | 40° 1' 40.098 N | 109° 31' 45.862 W |
| PBHL_NBU 921-22A1S - plan hits target cent - Circle (radius 100.0 |                  | 0.00            | 11,102.00   | 560.19        | 1,368.36      | 14,539,567.62      | 2,052,109.54      | 40° 1' 40.098 N | 109° 31' 45.862 W |



## **SDI**Planning Report



Database: EDM5000-RobertS-Local Company: US ROCKIES REGION P

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22B PAD

 Well:
 NBU 921-22A1S

Wellbore: OH

Project:

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well NBU 921-22A1S

GL 4816 & KB 4 @ 4820.00ft (ASSUMED) GL 4816 & KB 4 @ 4820.00ft (ASSUMED)

True

| Casing Points |          |                 |      |          |          |  |
|---------------|----------|-----------------|------|----------|----------|--|
|               | Measured | Vertical        |      | Casing   | Hole     |  |
|               | Depth    | Depth           |      | Diameter | Diameter |  |
|               | (ft)     | (ft)            | Name | (in)     | (in)     |  |
|               | 2,975.21 | 2,854.00 8 5/8" |      | 8.63     | 11.00    |  |

| Formations |                           |                           |             |           |            |                         |  |
|------------|---------------------------|---------------------------|-------------|-----------|------------|-------------------------|--|
|            | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name        | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |  |
|            | 1,593.91                  | 1,556.00                  | GREEN RIVER |           |            |                         |  |
|            | 1,968.50                  | 1,908.00                  | BIRDSNEST   |           |            |                         |  |
|            | 2,496.33                  | 2,404.00                  | MAHOGANY    |           |            |                         |  |
|            | 5,182.74                  | 4,946.00                  | WASATCH     |           |            |                         |  |
|            | 8,089.69                  | 7,851.00                  | MESAVERDE   |           |            |                         |  |
|            | 10,298.69                 | 10,060.00                 | SEGO        |           |            |                         |  |
|            | 10,349.69                 | 10,111.00                 | CASTLEGATE  |           |            |                         |  |
|            | 10,740.69                 | 10,502.00                 | BLACKHAWK   |           |            |                         |  |

| Plan Annotations |           |             |          |                                  |
|------------------|-----------|-------------|----------|----------------------------------|
| Measured         | Vertical  | Local Coord | dinates  |                                  |
| Depth            | Depth     | +N/-S       | +E/-W    | O                                |
| (ft)             | (ft)      | (ft)        | (ft)     | Comment                          |
| 300.00           | 300.00    | 0.00        | 0.00     | Start Build 2.00                 |
| 1,300.00         | 1,279.82  | 65.46       | 159.89   | Start 3240.65 hold at 1300.00 MD |
| 4,540.65         | 4,325.03  | 485.38      | 1,185.63 | Start Drop -1.75                 |
| 5,683.51         | 5,444.82  | 560.19      | 1,368.36 | Start 5657.18 hold at 5683.51 MD |
| 11,340.69        | 11,102.00 | 560.19      | 1,368.36 | TD at 11340.69                   |

NBU 921-22A1S/ 921-22B1BS/ 921-22B1CS NBU 921-22B4BS/ 921-22B4CS/ 921-22G1CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22B Pad Surface Use Plan of Operations 1 of 12

### Kerr-McGee Oil & Gas Onshore. L.P.

#### NBU 921-22B Pad

| API #4304740348 | NBU 921-22A1S  |              |            |
|-----------------|--|--------------|------------|
|                 | Surface: 943 FNL / 1835 FEL<br>BHL: 386 FNL / 464 FEL  | NWNE<br>NENE | Lot<br>Lot |
| API #           | NBU 921-22B1BS   |              |            |
|                 | Surface: 958 FNL / 1848 FEL<br>BHL: 249 FNL / 1819 FEL |              | Lot<br>Lot |
| API#            | NBU 921-22B1CS   |              |            |
| <del></del>     | Surface: 950 FNL / 1841 FEL<br>BHL: 579 FNL / 1819 FEL |              | Lot<br>Lot |
| API #           | NBU 921-22B4BS   |              |            |
|                 | Surface: 935 FNL / 1828 FEL<br>BHL: 911 FNL / 1819 FEL |              | Lot<br>Lot |
| API #           | NBU 921-22B4CS   |              |            |
| <del></del>     | Surface: 965 FNL / 1854 FEL<br>BHL: 1243 FNL / 1819 FE |              | Lot<br>Lot |
| <u>API #</u>    | NBU 921-22G1CS   |              |            |
|                 | Surface: 973 FNL / 1861 FEL<br>BHL: 1574 FNL / 1818 FE |              | Lot<br>Lot |

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 3-4, 2011. Present were:

- · Bucky Secakuku (10/4/2011 only) BIA;
- · LeAllen Blackhair, Rainey Longhair Ute Indian Tribe;
- · Kelly Jo Jackson Montgomery Archeological Consultants Inc.;
- · Scott Carson Smiling Lake Consulting;
- John Slaugh, Mitch Batty Timberline Engineering & Land Surveying, Inc.;
- Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock Kerr-McGee

#### A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

NBU 921-22A1S/ 921-22B1BS/ 921-22B1CS NBU 921-22B4BS/ 921-22B4CS/ 921-22G1CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22B Pad Surface Use Plan of Operations 2 of 12

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

NBU 921-22A1S/ 921-22B1BS/ 921-22B1CS NBU 921-22B4BS/ 921-22B4CS/ 921-22G1CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22B Pad Surface Use Plan of Operations 3 of 12

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

#### The following segments are "on-lease"

±265' (0.05 miles) – Section 22 T9S R21E (NE/4) – On-lease UTU010950A, from the edge of pad to the existing road to the northeast. Please refer to Topo B.

#### C. Location of Existing Wells:

A) Refer to Topo Map C.

#### D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 457, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records on December 7, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

#### **GAS GATHERING**

Please refer to Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 985^{\circ}$  and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±985' (0.2 miles) – Section 22 T9S R21E (NE/4) – On-lease UTU010950A Ute Indian Tribe surface, New 8" and 16" buried gas gathering pipeline from the meter to the proposed 16" gas pipeline - ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

#### **LIQUID GATHERING**

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 985^{\circ}$  and the individual segments are broken up as follows:

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NBU 921-22A1S/ 921-22B1BS/ 921-22B1CS NBU 921-22B4BS/ 921-22B4CS/ 921-22G1CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22B Pad Surface Use Plan of Operations 4 of 12

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±985' (0.2 miles) – Section 22 T9S R21E (NE/4) – On-lease UTU010950A Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the separator to the proposed 6" liquid pipeline-ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

#### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

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If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the Vernal BIA Office before terminating of the use of the pipeline(s).

#### The Anadarko Completions Transportation System (ACTS) information:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

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The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

#### E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

| Permit # 49-2307 | JD Field Services | Green River- Section 15, T2N, R22E |
|------------------|-------------------|------------------------------------|
| Permit # 49-2321 | R.N. Industries   | White River- Section 2, T10S, R24E |
| Permit # 49-2319 | R.N. Industries   | White River- Various Sources       |
| Permit # 49-2320 | R.N. Industries   | Green River- Section 33, T8S, R23E |

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

#### G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

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The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

#### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

NBU 921-22A1S/ 921-22B1BS/ 921-22B1CS NBU 921-22B4BS/ 921-22B4CS/ 921-22G1CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22B Pad Surface Use Plan of Operations 8 of 12

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E

#### H. Ancillary Facilities:

ancillary facilities are

#### I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

RECEIVED: April 23, 2012

NBU 921-22A1S/ 921-22B1BS/ 921-22B1CS NBU 921-22B4BS/ 921-22B4CS/ 921-22G1CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22B Pad Surface Use Plan of Operations 9 of 12

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

#### J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### Interim Reclamation

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

#### Final Reclamation

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

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After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

#### **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

| Indian Ricegrass (Nezpar) | 3    |
|---------------------------|------|
| Sandberg Bluegrass        | 0.75 |
| Bottlebrush Squirreltail  | 1    |
| Great Basin Wildrye       | 0.5  |
| Crested Wheatgrass        | 1.5  |
| Winterfat                 | 0.25 |
| Shadscale                 | 1.5  |
| Four-wing Saltbrush       | 0.75 |
| Forage Kochia             | 0.25 |
| Total                     | 9.5  |

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

#### **Weed Control**

Noxious weeds will be controlled in akk orihect areas un accordance with all applicable rules and regulations.

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#### K. Surface/Mineral Ownership:

Ute Indian Tribe
United States of America
P.O. Box 70
Bureau of Land Management
988 South 7500 East Annex Building
Fort Duschesne, UT 84026
Vernal, UT 84078
(435) 722-4307
(435)781-4400

#### L. Other Information:

#### **Onsite Specifics:**

- Entire pad to be raised to avoid drainage issues. Gravel will come from KW Gravel Pit and N&S Gravel
- Diversion ditch between corners 6, 7 and 8
- Old PA well on location
- Arch monitor during construction
- · No Paleo monitor during construction

#### **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

#### Resource Reports:

A Class I literature survey was completed in December, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-406.

A paleontological reconnaissance survey was completed on July 19, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-114.

Biological field survey was completed on August 8, 16 and 17, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-565.

#### **Proposed Action Annual Emissions Tables:**

| Table 1: Proposed Action Annual Emissions (tons/year) <sup>1</sup> |             |            |          |  |  |  |  |
|--|-------------|------------|----------|--|--|--|--|
| Pollutant  | Development | Production | Total    |  |  |  |  |
| NOx  | 3.8         | 0.12       | 3.92     |  |  |  |  |
| CO   | 2.2         | 0.11       | 2.31     |  |  |  |  |
| VOC  | 0.1         | 4.9        | 5        |  |  |  |  |
| SO <sub>2</sub>  | 0.005       | 0.0043     | 0.0093   |  |  |  |  |
| $PM_{10}$  | 1.7         | 0.11       | 1.81     |  |  |  |  |
| PM <sub>2.5</sub>  | 0.4         | 0.025      | 0.425    |  |  |  |  |
| Benzene  | 2.2E-03     | 0.044      | 0.046    |  |  |  |  |
| Toluene  | 1.6E-03     | 0.103      | 0.105    |  |  |  |  |
| Ethylbenzene   | 3.4E-04     | 0.005      | 0.005    |  |  |  |  |
| Xylene   | 1.1E-03     | 0.076      | 0.077    |  |  |  |  |
| n-Hexane   | 1.7E-04     | 0.145      | 0.145    |  |  |  |  |
| Formaldehyde   | 1.3E-02     | 8.64E-05   | 1.31E-02 |  |  |  |  |

<sup>&</sup>lt;sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in

which the project is developed

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| Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison |   |  |               |  |  |  |
|--|---|--|---------------|--|--|--|
| Species  | Proposed Action Production Emissions (ton/yr) | WRAP Phase III<br>2012 Uintah Basin<br>Emission<br>Inventory <sup>a</sup> (ton/yr) | to WRAP Phase |  |  |  |
| NOx  | 23.52   | 16,547   | 0.14%         |  |  |  |
| VOC  | 30  | 127,495  | 0.02%         |  |  |  |

a http://www.wrapair.org/forums/ogwg/PhaseIII\_Inventory.html

Uintah Basin Data

#### M. Lessee's or Operators' Representative & Certification:

Laura Abrams
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6356

Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filling of false statements.

Laura Abrams

December 15, 2011

Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

October 10, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 921-22A1S

T9S-R21E

Section 22 NWNE (Surface), NENE (Bottom Hole)

Surface: 943' FNL, 1835' FEL Bottom Hole: 386' FNL, 464' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-22A1S is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

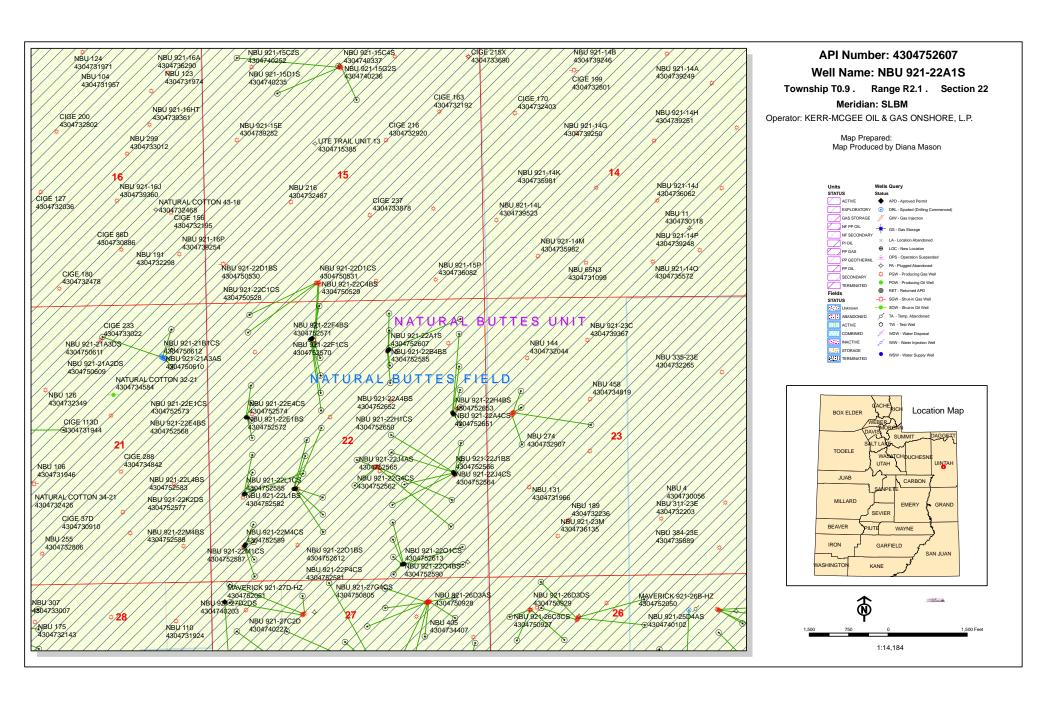
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney Sr. Staff Landman

Joe Matiney



## United States Department of the Interior

#### BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

May 14, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

2012 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2012 within the Natural Buttes Unit, Uintah County, Utah.

BHL Sec 22 T09S R21E 0579 FNL 1819 FEL

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

WELL PAD - NBU 921-22K 43-047-52550 NBU 921-22K2AS Sec 22 T09S R21E 1748 FSL 1611 FWL BHL Sec 22 T09S R21E 2366 FSL 1832 FWL 43-047-52551 NBU 921-22K4CS Sec 22 T09S R21E 1753 FSL 1640 FWL BHL Sec 22 T09S R21E 1576 FSL 2147 FWL 43-047-52552 NBU 921-22N1BS Sec 22 T09S R21E 1751 FSL 1630 FWL BHL Sec 22 T09S R21E 1244 FSL 2147 FWL 43-047-52575 NBU 921-22F4CS Sec 22 T09S R21E 1755 FSL 1650 FWL BHL Sec 22 T09S R21E 2406 FNL 2148 FWL 43-047-52576 NBU 921-22F3DS Sec 22 T09S R21E 1747 FSL 1601 FWL BHL Sec 22 T09S R21E 2634 FNL 1870 FWL 43-047-52580 NBU 921-22N1CS Sec 22 T09S R21E 1750 FSL 1620 FWL BHL Sec 22 T09S R21E 0912 FSL 2146 FWL WELL PAD - NBU 921-22B 43-047-52553 NBU 921-22G1CS Sec 22 T09S R21E 0973 FNL 1861 FEL BHL Sec 22 T09S R21E 1574 FNL 1818 FEL 43-047-52554 NBU 921-22B4CS Sec 22 T09S R21E 0965 FNL 1854 FEL BHL Sec 22 T09S R21E 1243 FNL 1819 FEL 43-047-52555 NBU 921-22B4BS Sec 22 T09S R21E 0935 FNL 1828 FEL BHL Sec 22 T09S R21E 0911 FNL 1819 FEL 43-047-52556 NBU 921-22B1CS Sec 22 T09S R21E 0950 FNL 1841 FEL

RECEIVED: May 15, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

43-047-52557 NBU 921-22B1BS Sec 22 T09S R21E 0958 FNL 1848 FEL

BHL Sec 22 T09S R21E 0249 FNL 1819 FEL

43-047-52607 NBU 921-22A1S Sec 22 T09S R21E 0943 FNL 1835 FEL

BHL Sec 22 T09S R21E 0386 FNL 0464 FEL

WELL PAD - NBU 921-22C

43-047-52558 NBU 921-22C1BS Sec 22 T09S R21E 0691 FNL 2010 FWL

BHL Sec 22 T09S R21E 0085 FNL 2150 FWL

43-047-52567 NBU 921-22C4CS Sec 22 T09S R21E 0696 FNL 2001 FWL

BHL Sec 22 T09S R21E 1078 FNL 2149 FWL

43-047-52569 NBU 921-22F1BS Sec 22 T09S R21E 0701 FNL 1993 FWL

BHL Sec 22 T09S R21E 1410 FNL 2149 FWL

43-047-52570 NBU 921-22F1CS Sec 22 T09S R21E 0707 FNL 1984 FWL

BHL Sec 22 T09S R21E 1742 FNL 2149 FWL

43-047-52571 NBU 921-22F4BS Sec 22 T09S R21E 0712 FNL 1976 FWL

BHL Sec 22 T09S R21E 2073 FNL 2149 FWL

WELL PAD - NBU 921-22I

43-047-52560 NBU 921-22I1CS Sec 22 T09S R21E 1973 FSL 0620 FEL

BHL Sec 22 T09S R21E 2237 FSL 0494 FEL

43-047-52561 NBU 921-22I1BS Sec 22 T09S R21E 1981 FSL 0626 FEL

BHL Sec 22 T09S R21E 2569 FSL 0494 FEL

43-047-52562 NBU 921-22G4CS Sec 22 T09S R21E 2013 FSL 0650 FEL

BHL Sec 22 T09S R21E 2569 FNL 1818 FEL

43-047-52564 NBU 921-22J4CS Sec 22 T09S R21E 1989 FSL 0632 FEL

BHL Sec 22 T09S R21E 1410 FSL 1817 FEL

43-047-52565 NBU 921-22J4AS Sec 22 T09S R21E 1997 FSL 0638 FEL

BHL Sec 22 T09S R21E 1796 FSL 1580 FEL

43-047-52566 NBU 921-22J1BS Sec 22 T09S R21E 2005 FSL 0644 FEL

BHL Sec 22 T09S R21E 2405 FSL 1817 FEL

WELL PAD - NBU 921-22H

43-047-52563 NBU 921-22H4CS Sec 22 T09S R21E 2196 FNL 0627 FEL

BHL Sec 22 T09S R21E 2403 FNL 0494 FEL

43-047-52650 NBU 921-22H1CS Sec 22 T09S R21E 2179 FNL 0637 FEL

BHL Sec 22 T09S R21E 1740 FNL 0494 FEL

43-047-52651 NBU 921-22A4CS Sec 22 T09S R21E 2170 FNL 0642 FEL

BHL Sec 22 T09S R21E 1288 FNL 0504 FEL

43-047-52652 NBU 921-22A4BS Sec 22 T09S R21E 2162 FNL 0647 FEL

BHL Sec 22 T09S R21E 0670 FNL 0494 FEL

43-047-52653 NBU 921-22H4BS Sec 22 T09S R21E 2188 FNL 0632 FEL

BHL Sec 22 T09S R21E 2071 FNL 0494 FEL

Page 2

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

#### WELL PAD - NBU 921-22E

43-047-52568 NBU 921-22E4BS Sec 22 T09S R21E 2179 FNL 0750 FWL

BHL Sec 22 T09S R21E 2239 FNL 0824 FWL

43-047-52572 NBU 921-22E1BS Sec 22 T09S R21E 2179 FNL 0720 FWL

BHL Sec 22 T09S R21E 1576 FNL 0824 FWL

43-047-52573 NBU 921-22E1CS Sec 22 T09S R21E 2179 FNL 0730 FWL

BHL Sec 22 T09S R21E 1908 FNL 0824 FWL

43-047-52574 NBU 921-22E4CS Sec 22 T09S R21E 2179 FNL 0740 FWL

BHL Sec 22 T09S R21E 2572 FNL 0824 FWL

#### WELL PAD - NBU 921-22L

43-047-52577 NBU 921-22K2DS Sec 22 T09S R21E 1668 FSL 0666 FWL

BHL Sec 22 T09S R21E 2038 FSL 1784 FWL

43-047-52582 NBU 921-22L1BS Sec 22 T09S R21E 1660 FSL 0648 FWL

BHL Sec 22 T09S R21E 2408 FSL 0824 FWL

43-047-52583 NBU 921-22L4BS Sec 22 T09S R21E 1672 FSL 0675 FWL

BHL Sec 22 T09S R21E 1744 FSL 0824 FWL

43-047-52585 NBU 921-22L1CS Sec 22 T09S R21E 1664 FSL 0657 FWL

BHL Sec 22 T09S R21E 2076 FSL 0824 FWL

#### WELL PAD - NBU 921-220

43-047-52578 NBU 921-2204CS Sec 22 T09S R21E 0269 FSL 1655 FEL

BHL Sec 22 T09S R21E 0086 FSL 1816 FEL

43-047-52579 NBU 921-22P4BS Sec 22 T09S R21E 0280 FSL 1606 FEL

BHL Sec 22 T09S R21E 0581 FSL 0494 FEL

43-047-52581 NBU 921-22P4CS Sec 22 T09S R21E 0278 FSL 1616 FEL

BHL Sec 22 T09S R21E 0251 FSL 0494 FEL

43-047-52590 NBU 921-2204BS Sec 22 T09S R21E 0271 FSL 1645 FEL

BHL Sec 22 T09S R21E 0416 FSL 1816 FEL

43-047-52612 NBU 921-2201BS Sec 22 T09S R21E 0276 FSL 1625 FEL

BHL Sec 22 T09S R21E 1079 FSL 1817 FEL

43-047-52613 NBU 921-2201CS Sec 22 T09S R21E 0274 FSL 1635 FEL

BHL Sec 22 T09S R21E 0747 FSL 1816 FEL

#### WELL PAD - NBU 921-22M

43-047-52586 NBU 921-22M1BS Sec 22 T09S R21E 0695 FSL 0660 FWL

BHL Sec 22 T09S R21E 1080 FSL 0823 FWL

43-047-52587 NBU 921-22M1CS Sec 22 T09S R21E 0686 FSL 0654 FWL

BHL Sec 22 T09S R21E 0748 FSL 0823 FWL

43-047-52588 NBU 921-22M4BS Sec 22 T09S R21E 0678 FSL 0649 FWL

BHL Sec 22 T09S R21E 0416 FSL 0823 FWL

43-047-52589 NBU 921-22M4CS Sec 22 T09S R21E 0670 FSL 6043 FWL

BHL Sec 22 T09S R21E 0086 FSL 0823 FWL

Page 3

Page 4

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L Coulthard

Disc. cn=Michael L. Coulthard, o=Bureau of Land Management,
ou=Branch of Minerals, email-Michael\_Coulthard@blm.gov, c=US
Date: 2012.05.15 07:17:01 -06'00'

bcc: File - Natural Buttes Unit Division of Oil Gas and Mining Central Files

Agr. Sec. Chron Fluid Chron

MCoulthard:mc:5-14-12

## **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 4/23/2012 API NO. ASSIGNED: 43047526070000

WELL NAME: NBU 921-22A1S

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6356

**CONTACT:** Laura Abrams

PROPOSED LOCATION: NWNE 22 090S 210E **Permit Tech Review:** 

> **SURFACE**: 0943 FNL 1835 FEL **Engineering Review:**

> BOTTOM: 0386 FNL 0464 FEL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 40.02623 LONGITUDE: -109.53493 UTM SURF EASTINGS: 625012.00 NORTHINGS: 4431697.00

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-010950-A PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 2 - Indian **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** ✓ PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

Oil Shale 190-13 **Drilling Unit** 

Board Cause No: Cause 173-14 Water Permit: 43-8496

Effective Date: 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting Fee Surface Agreement

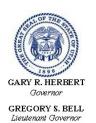
✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason



## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

## Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 921-22A1S API Well Number: 43047526070000 Lease Number: UTU-010950-A

Surface Owner: INDIAN Approval Date: 5/30/2012

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### **Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

#### Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas

## RECEIVED

Form 3160-3 (August 2007) JUN 1 8 2012

# RECEIVED

**UNITED STATES** DIV. OF OIL, GAS & MINNEG PARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

JAN 1 U 2012

FORM APPROVED OMB No. 1004-0136

Expires July 31, 2010 5. Lease Serial No. UTU010950A

| APPLICATION FOR PERMIT  | TO DRILL OR REENTER TIVAL, UIA  | 6. If Indian, Allottee or Tribe l                 | lame .               |
|---|---|---|----------------------|
| Ia. Type of Work: ☑ DRILL ☐ REENTER   |   | 7. If Unit or CA Agreement, N<br>UTU63047A        | ame and No.          |
| 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Oth   | her Single Zone  Multiple Zone  | 8. Lease Name and Well No.<br>NBU 921-22A1S       |                      |
| 2. Name of Operator Contact: KERR MCGEE OIL&GAS ONSHOREM&IPLaura.A  | LAURA ARRAMS  | 9. API Well No. 43.040 52607                      | •                    |
| 3a. Address<br>PO BOX 173779<br>DENVER, CO 80202-3779   | 3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356                                     | 10. Field and Pool, or Explorat<br>NATURAL BUTTES |                      |
| 4. Location of Well (Report location clearly and in accorda   | nnce with any State requirements.*)   | 11. Sec., T., R., M., or Blk. and                 | l Survey or Area     |
| At surface NWNE 943FNL 1835FEL 4  | 10.026232 N Lat, 109.534981 W Lon   | Sec 22 T9S R21E Mer                               | _                    |
| At proposed prod. zone NENE 386FNL 464FEL 40  | .027770 N Lat, 109.530094 W Lon   |   |                      |
| 14. Distance in miles and direction from nearest town or post APPROXIMATELY 44.7 MILES SOUTH OF VEI   | office*<br>RNAL, UT   | 12. County or Parish<br>UINTAH                    | 13. State<br>UT      |
| <ol> <li>Distance from proposed location to nearest property or<br/>lease line, ft. (Also to nearest drig. unit line, if any)</li> </ol>  | 16. No. of Acres in Lease   | 17. Spacing Unit dedicated to t                   | nis well             |
| 386'  | 800.00  |   |                      |
| 18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.   | 19. Proposed Depth  | 20. BLM/BIA Bond No. on file                      |                      |
| 527'  | 11341 MD<br>11102 TVD   | WYB000291   |                      |
| 21. Elevations (Show whether DF, KB, RT, GL, etc. 4813 GL   | 22. Approximate date work will start 06/30/2012   | 23. Estimated duration<br>60-90 DAYS              |                      |
|   | 24. Attachments   |   |                      |
| The following, completed in accordance with the requirements of   | f Onshore Oil and Gas Order No. 1, shall be attached to f   | his form:   | <u></u>              |
| <ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Systes SUPO shall be filed with the appropriate Forest Service Off</li> </ol> | 4. Bond to cover the operation Item 20 above). em Lands, the 5. Operator certification                  | ns unless covered by an existing b                |                      |
| 25. Signature (Electronic Submission)   | Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356  |   | Date<br>12/15/2011   |
| Title<br>REGULATORY ANALYST II  |   |   |                      |
| Approved by (Signature)   | Name (Printed/Typed) Jerry Kenczka  | . 1   | Date<br>JUN 0 8 2012 |
| Assistant Field Manager Lands & Mineral Resources   | VERNAL FIELD OFFICE   |   |                      |
| Application approval does not warrant or certify the applicant holoperations thereon. Conditions of approval, if any, are attached.   | ds legal or equitable title to those rights in the subject lea  | se which would entitle the applica                | nt to conduct        |
| Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, m<br>States any false, fictitious or fraudulent statements or representati   | nake it a crime for any person knowingly and willfully to ons as to any matter within its jurisdiction. | make to any department or agency                  | of the United        |

Additional Operator Remarks (see next page)

Electronic Submission #125910 verified by the BLM Well Information System For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

> **NOTICE OF APPROVAL** CONDITIONS OF APPROVAL ATTACHED

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

12PLB0007A

NO NOS APAPosted 2/8/12



#### UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE** 170 South 500 East

**VERNAL, UT 84078** 

(435) 781-4400



## CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

| Company: | Kerr McGee Oil & Gas Onshore LP | Location:  | NWNE, Sec.22,T9S R21E |
|----------|---------------------------------|------------|-----------------------|
| Well No: | NBU 921-22A1S                   | Lease No:  | UTU-010950A           |
| API No:  | 43-047-52607                    | Agreement: | Natural Buttes        |

OFFICE NUMBER:

(435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

## A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

#### **NOTIFICATION REQUIREMENTS**

| Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)            | - | The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.                                      |
|---|---|--|
| Construction Completion<br>(Notify Ute Tribe Energy & Minerals<br>Dept. and BLM Environmental<br>Scientist) | - | Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig. |
| Spud Notice<br>(Notify BLM Petroleum Engineer)  | - | Twenty-Four (24) hours prior to spudding the well.   |
| Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)  | - | Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm.ut_vn_opreport@blm.gov">blm_ut_vn_opreport@blm.gov</a>   |
| BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)  | - | Twenty-Four (24) hours prior to initiating pressure tests.   |
| First Production Notice<br>(Notify BLM Petroleum Engineer)  | - | Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.   |

Page 2 of 7 Well: NBU 921-22A1S 6/7/2012

### SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.

#### Site Specific COA's

- Paint facilities "Shadow Gray".
- Conduct a raptor survey prior to construction operation if such activates would take place during raptor nesting season (January 1- September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah.
- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor construction operation with a permitted archaeology.
- Monitor construction operation with a permitted paleontologist.
- Construct diversion ditch between corners #6, #7, and #8.
- Construct low water crossing on access road.
- Cut and bury old P&A marker.

## Pipeline Route from North Compressor to West Cottonwood Compressor

- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor areas with a permitted paleontologist where pipeline travels through Sections 15, 16,
   17, and 22. Monitor section 27 at the beginning of construction and spot monitor thereafter.

#### ACTS line

- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor areas with a permitted paleontologist where ACTS line travels through Section 15 SWSE, and Section 22 NWNE, NENW, SWSW, and SWSE.

Page 3 of 7 Well: NBU 921-22A1S 6/7/2012

#### DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

#### SITE SPECIFIC DOWNHOLE COAs:

• Gamma ray Log shall be run from Total Depth to Surface.

#### Variances Granted:

#### Air Drilling

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the
  well bore. Variance granted for truck/trailer mounted air compressors located 40'from the well
  bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
- FIT Test. Variance granted due to well-known geology and the problems that can occur with the FIT test.

Page 4 of 7 Well: NBU 921-22A1S

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

#### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the
  daily drilling report. Components shall be operated and tested as required by Onshore Oil &
  Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be
  performed by a test pump with a chart recorder and NOT by the rig pumps. Test shall be
  reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- · Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water
  is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM
  Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum
   Engineers until the well is completed.

Page 5 of 7 Well: NBU 921-22A1S 6/7/2012

• A cement bond log (CBL) will be run from the production casing shoe to the <u>top of cement</u> and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 6 of 7 Well: NBU 921-22A1S 6/7/2012

#### **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written
  communication and must be received in this office by not later than the fifth business day
  following the date on which the well is placed on production. The notification shall provide, as a
  minimum, the following informational items:
  - o Operator name, address, and telephone number.
  - Well name and number.
  - o Well location (1/41/4, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

Page 7 of 7 Well: NBU 921-22A1S 6/7/2012

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field
  Office Petroleum Engineers will be provided with a date and time for the initial meter calibration
  and all future meter proving schedules. A copy of the meter calibration reports shall be
  submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API
  standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All
  measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted
  to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs
  first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be
  adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively
  sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior
  approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30
  days, prior approval of the BLM Vernal Field Office shall be obtained and notification given
  before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

Sundry Number: 27929 API Well Number: 43047526070000

|  | STATE OF UTAH   |   | FORM 9   |  |  |
|--|---|---|--|--|--|
| ı  | DEPARTMENT OF NATURAL RESOURCE<br>DIVISION OF OIL, GAS, AND MIN   |   | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A                                |  |  |
| SUNDR  | Y NOTICES AND REPORTS (   | ON WELLS                                  | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In                                    |  |  |
|  | posals to drill new wells, significantly or<br>reenter plugged wells, or to drill horizor<br>n for such proposals.  |   | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES                                     |  |  |
| 1. TYPE OF WELL<br>Gas Well                                      |   |   | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S  |  |  |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON                  | ISHORE, L.P.  |   | 9. API NUMBER:<br>43047526070000   |  |  |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th         | n Street, Suite 600, Denver, CO, 80217  | <b>PHONE NUMBER:</b> 3779 720 929-6       | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES                                   |  |  |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL |   |   | COUNTY:<br>UINTAH  |  |  |
| QTR/QTR, SECTION, TOWNSH<br>Qtr/Qtr: NWNE Section: 2             | STATE:<br>UTAH  |   |  |  |  |
| 11. CHECI  | K APPROPRIATE BOXES TO INDICAT  | E NATURE OF NOTICE, REPOR                 | RT, OR OTHER DATA  |  |  |
| TYPE OF SUBMISSION   |   |   |  |  |  |
|  | ACIDIZE   | ALTER CASING                              | CASING REPAIR  |  |  |
| NOTICE OF INTENT Approximate date work will start:               | CHANGE TO PREVIOUS PLANS  | CHANGE TUBING                             | CHANGE WELL NAME   |  |  |
|  | CHANGE WELL STATUS  | COMMINGLE PRODUCING FORMATIONS            | CONVERT WELL TYPE  |  |  |
| SUBSEQUENT REPORT Date of Work Completion:                       | DEEPEN  | FRACTURE TREAT                            | ☐ NEW CONSTRUCTION   |  |  |
|  | OPERATOR CHANGE   | PLUG AND ABANDON                          | PLUG BACK  |  |  |
| ✓ SPUD REPORT  | PRODUCTION START OR RESUME  | RECLAMATION OF WELL SITE                  | RECOMPLETE DIFFERENT FORMATION   |  |  |
| Date of Spud:<br>7/19/2012                                       | REPERFORATE CURRENT FORMATION   | SIDETRACK TO REPAIR WELL                  | TEMPORARY ABANDON  |  |  |
|  | TUBING REPAIR   | VENT OR FLARE                             | WATER DISPOSAL   |  |  |
| DRILLING REPORT Report Date:                                     | ☐ WATER SHUTOFF   | SI TA STATUS EXTENSION                    | APD EXTENSION  |  |  |
|  | WILDCAT WELL DETERMINATION  | OTHER                                     | OTHER:   |  |  |
| MIRU TRIPLE A BU<br>RAN 14" 36.7# SC                             | COMPLETED OPERATIONS. Clearly show a CKET RIG. DRILLED 20" CONI HEDULE 10 CONDUCTOR PIF. SPUD WELL LOCATION ON HRS. | DUCTOR HOLE TO 40'.<br>PE. CEMENT WITH 28 | Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY July 20, 2012 |  |  |
| NAME (PLEASE PRINT) Jaime Scharnowske                            | PHONE NUMBE<br>720 929-6304   | R TITLE Regulartory Analyst               |  |  |  |
| SIGNATURE  | 120 323-0304  | DATE                                      |  |  |  |
| N/A  |   | 7/20/2012                                 |  |  |  |

RECEIVED: Jul. 20, 2012

SUBMIT AS EMAIL

Print Form

## **BLM - Vernal Field Office - Notification Form**

| Opera   | ator <u>KERR-McGEE OIL &amp; GA</u>  | <u>'S</u> Rig Name/ | # BUCKET RIG            |             |
|---------|--|---------------------|-------------------------|-------------|
| Subm    | nitted By <u>J. Scharnowske</u>  | Phone Numl          | oer <u>720.929.6304</u> | <u> </u>    |
|         | Name/Number NBU 921-22A  |                     |                         |             |
| Qtr/C   | Otr NWNE Section 22  | Township 98         | Range <u>21</u>         | E           |
| Lease   | e Serial Number UTU010950  | Α                   |                         |             |
| API N   | Number <u>4304752607</u>   |                     |                         |             |
| •       | Notice – Spud is the initial pelow a casing string.  | spudding of         | the well, not di        | rilling     |
|         | Date/Time <u>07/18/2012</u>  | 17:00 HRS A         | M PM                    |             |
| times   | ng — Please report time casi<br>S.<br>Surface Casing<br>Intermediate Casing<br>Production Casing<br>Liner<br>Other | ng run starts       | , not cementing         | 3           |
|         | Date/Time <u>08/24/2012</u>  | 08:00 HRS A         | M PM                    |             |
|         | Initial BOPE test at surface<br>BOPE test at intermediate of<br>30 day BOPE test<br>Other                          |                     |                         |             |
|         | Date/Time  |                     | M PM                    |             |
| Rema    | arks estimated date and time. Plea   | SE CONTACT KENNY    | GATHINGS AT             | <del></del> |
| 435.828 | 3.0986 OR LOVEL YOUNG AT 435.781.705   | 51                  |                         |             |

#### STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

zip 80217 state CO

Phone Number: (720) 929-6304

#### Well 1

| API Number  | Well                     | Well Name QQ Sec Twp Rng |   |            |   | County |                                  |
|-------------|--------------------------|--------------------------|---|------------|---|--------|----------------------------------|
| 4304752556  | NBU 921-2                | NBU 921-22B1CS           |   | NWNE 22 9S |   | 21E    | UINTAH                           |
| Action Code | Current Entity<br>Number | New Entity<br>Number     | S | Spud Date  |   | t      | ity Assignment<br>iffective Date |
| В           | 99999                    | 3000                     | 7 | /18/201    | 2 | 7/     | 51/3012                          |

Comments:

MIRU TRIPLE A BUCKET RIG.

avmacu

SPUD WELL LOCATION ON 07/18/2012 AT 15:00 HRS. BHL: NWING

Well 2

| API Number  | Well                     | Well Name QQ Sec Twp Rng |  |          | Well Name QQ Sec Twp Rng |                                  | Well Name |       | QQ Sec Twp |  | ( | County |
|-------------|--------------------------|--------------------------|--|----------|--------------------------|----------------------------------|-----------|-------|------------|--|---|--------|
| 4304752607  | NBU 921-22A              | .1S                      | NWNE 22 9S  New Entity Number  Spud Date |          | 21E                      | l                                | JINTAH    |       |            |  |   |        |
| Action Code | Current Entity<br>Number |                          |  |          |                          | Entity Assignment Effective Date |           |       |            |  |   |        |
| B           | 99999                    | 3900                     | 7  | 7/19/201 | 2                        | 71                               | 31        | 12012 |            |  |   |        |
| Comments:   |                          |                          | 1  | NSM      | 20                       |                                  | •         |       |            |  |   |        |

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON 07/19/2012 AT 07:30 HRS.

Well 3

| API Number     | Well                     | Name                 | QQ   | QQ Sec Twp |    | Rng | County                         |
|----------------|--------------------------|----------------------|------|------------|----|-----|--------------------------------|
| 4304752555     | NBU 921-2                | 2B4BS                | NWNE | NWNE 22 9S |    | 21E | UINTAH                         |
| Action Code    | Current Entity<br>Number | New Entity<br>Number | S    | Spud Date  |    | 1   | tity Assignment Effective Date |
| B              | 99999                    | 2900                 | 7    | /19/201    | 2  | 7]  | 31 12012                       |
| Comments: MIRL | J TRIPLE A BUCKET R      | IG.                  | W    | 100 m      | 1D |     |                                |

SPUD WELL LOCATION ON 07/19/2012 AT 09:30 HRS. BHL: nwn

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity F Other (Explain in 'comments' section)

JUL 2 3 2012

#### JAIME SCHARNOWSKE

Name (Please Print)

Signature

REGULATORY ANALYST

7/20/2012

Title

Date

Sundry Number: 29704 API Well Number: 43047526070000

| STATE OF UTAH   |  |                                | FORM 9  |  |
|---|--|--------------------------------|---|--|
| DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING  |  |                                | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A |  |
|   | Y NOTICES AND REPORTS ON   |                                | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In     |  |
|   | posals to drill new wells, significantly deep<br>eenter plugged wells, or to drill horizontal l<br>n for such proposals. |                                | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES      |  |
| 1. TYPE OF WELL<br>Gas Well   |  |                                | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S           |  |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON   | ISHORE, L.P.   |                                | 9. API NUMBER:<br>43047526070000                    |  |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th  | PHO<br>n Street, Suite 600, Denver, CO, 80217 377  | NE NUMBER:<br>9 720 929-6      | 9. FIELD and POOL or WILDCAT:<br>5NATUERAL BUTTES   |  |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL  |  |                                | COUNTY:<br>UINTAH                                   |  |
| QTR/QTR, SECTION, TOWNSH  | IIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Meridian:   | s                              | STATE:<br>UTAH                                      |  |
| 11. CHECI   | CAPPROPRIATE BOXES TO INDICATE N   | ATURE OF NOTICE, REPOR         | T, OR OTHER DATA                                    |  |
| TYPE OF SUBMISSION  |  | TYPE OF ACTION                 |   |  |
| _   | ACIDIZE  | ALTER CASING                   | CASING REPAIR                                       |  |
| NOTICE OF INTENT Approximate date work will start:  | CHANGE TO PREVIOUS PLANS   | CHANGE TUBING                  | CHANGE WELL NAME                                    |  |
|   | CHANGE WELL STATUS   | COMMINGLE PRODUCING FORMATIONS | CONVERT WELL TYPE                                   |  |
| SUBSEQUENT REPORT Date of Work Completion:  | DEEPEN   | FRACTURE TREAT                 | NEW CONSTRUCTION                                    |  |
|   | OPERATOR CHANGE  | PLUG AND ABANDON               | PLUG BACK   |  |
| SPUD REPORT   | PRODUCTION START OR RESUME   | RECLAMATION OF WELL SITE       | RECOMPLETE DIFFERENT FORMATION                      |  |
| Date of Spud:   | REPERFORATE CURRENT FORMATION  | SIDETRACK TO REPAIR WELL       | TEMPORARY ABANDON                                   |  |
|   | TUBING REPAIR  | /ENT OR FLARE                  | WATER DISPOSAL                                      |  |
| DRILLING REPORT Report Date:  | WATER SHUTOFF  | SI TA STATUS EXTENSION         | APD EXTENSION                                       |  |
| 9/5/2012  | WILDCAT WELL DETERMINATION   | DTHER                          | OTHER:  |  |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  No Activity for the month of August 2012. Well TD at 3,004.  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY September 05, 2012  NAME (PLEASE PRINT)  PHONE NUMBER TITLE |  |                                |   |  |
| Jaime Scharnowske   | 720 929-6304   | Regulartory Analyst            |   |  |
| SIGNATURE<br>N/A  |  | <b>DATE</b> 9/5/2012           |   |  |

Sundry Number: 30527 API Well Number: 43047526070000

|  | FORM 9  |                                      |   |  |
|--|---|--------------------------------------|---|--|
| DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING   |   |                                      | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A |  |
| SUNDRY NOTICES AND REPORTS ON WELLS  |   |                                      | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In     |  |
|  | posals to drill new wells, significantly<br>reenter plugged wells, or to drill horizon<br>for such proposals. |                                      | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES      |  |
| 1. TYPE OF WELL<br>Gas Well  |   |                                      | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S           |  |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON  | ISHORE, L.P.  |                                      | 9. API NUMBER:<br>43047526070000                    |  |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th   | n Street, Suite 600, Denver, CO, 8021   | <b>PHONE NUMBER:</b> 7 3779 720 929- | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES    |  |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL   |   |                                      | COUNTY:<br>UINTAH                                   |  |
| QTR/QTR, SECTION, TOWNSH   | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Meri   | idian: S                             | STATE:<br>UTAH                                      |  |
| 11. CHECI  | K APPROPRIATE BOXES TO INDICA   | TE NATURE OF NOTICE, REPOR           | RT, OR OTHER DATA                                   |  |
| TYPE OF SUBMISSION   |   | TYPE OF ACTION                       |   |  |
|  | ACIDIZE   | ALTER CASING                         | CASING REPAIR                                       |  |
| NOTICE OF INTENT Approximate date work will start:   | CHANGE TO PREVIOUS PLANS  | CHANGE TUBING                        | CHANGE WELL NAME                                    |  |
|  | CHANGE WELL STATUS  | COMMINGLE PRODUCING FORMATIONS       | CONVERT WELL TYPE                                   |  |
| SUBSEQUENT REPORT Date of Work Completion:   | DEEPEN  | FRACTURE TREAT                       | NEW CONSTRUCTION                                    |  |
|  | OPERATOR CHANGE   | PLUG AND ABANDON                     | PLUG BACK   |  |
| SPUD REPORT  | PRODUCTION START OR RESUME  | RECLAMATION OF WELL SITE             | RECOMPLETE DIFFERENT FORMATION                      |  |
| Date of Spud:  | REPERFORATE CURRENT FORMATION   | SIDETRACK TO REPAIR WELL             | TEMPORARY ABANDON                                   |  |
|  | TUBING REPAIR   | VENT OR FLARE                        | WATER DISPOSAL                                      |  |
| ✓ DRILLING REPORT Report Date:   | WATER SHUTOFF   | SI TA STATUS EXTENSION               | APD EXTENSION                                       |  |
| 10/3/2012  |   | SITA STATUS EXTENSION                |   |  |
|  | WILDCAT WELL DETERMINATION  | OTHER                                | OTHER:  |  |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  No Activity for the month of September 2012. Well TD at 3,004.  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY  October 03, 2012 |   |                                      |   |  |
| NAME (PLEASE PRINT) Jaime Scharnowske  | <b>PHONE NUME</b><br>720 929-6304   | BER TITLE Regulartory Analyst        |   |  |
| SIGNATURE  | 5   | DATE                                 |   |  |
| N/A  |   | 10/3/2012                            |   |  |

Sundry Number: 31576 API Well Number: 43047526070000

|  | STATE OF UTAH   |                 |   | FORM 9   |
|--|---|-----------------|---|--|
| DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING                         |   |                 | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A |  |
| SUNDRY NOTICES AND REPORTS ON WELLS  |   |                 | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In     |  |
| Do not use this form for pro<br>current bottom-hole depth, I<br>FOR PERMIT TO DRILL form | posals to drill new wells, significantly<br>reenter plugged wells, or to drill horizen<br>n for such proposals. | deep<br>ontal l | en existing wells below aterals. Use APPLICATION    | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES   |
| 1. TYPE OF WELL<br>Gas Well  |   |                 |   | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S  |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON  | ISHORE, L.P.  |                 |   | 9. API NUMBER:<br>43047526070000   |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th                                 | n Street, Suite 600, Denver, CO, 8021   |                 | NE NUMBER: 720 929-6                                | 9. FIELD and POOL or WILDCAT:<br>5MATURAL BUTTES                                       |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL                         |   |                 |   | COUNTY:<br>UINTAH  |
| QTR/QTR, SECTION, TOWNSH   | HP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Mer   | idian:          | s   | STATE:<br>UTAH   |
| 11. CHECI  | K APPROPRIATE BOXES TO INDICA   | TE N            | ATURE OF NOTICE, REPOR                              | RT, OR OTHER DATA  |
| TYPE OF SUBMISSION   |   |                 | TYPE OF ACTION                                      |  |
|  | ACIDIZE   |                 | ALTER CASING  | CASING REPAIR  |
| NOTICE OF INTENT Approximate date work will start:                                       | CHANGE TO PREVIOUS PLANS  |                 | CHANGE TUBING                                       | CHANGE WELL NAME   |
|  | CHANGE WELL STATUS  |                 | COMMINGLE PRODUCING FORMATIONS                      | CONVERT WELL TYPE  |
| SUBSEQUENT REPORT Date of Work Completion:   | DEEPEN  | □ F             | FRACTURE TREAT                                      | NEW CONSTRUCTION   |
|  | OPERATOR CHANGE   | ☐ F             | PLUG AND ABANDON                                    | PLUG BACK  |
| SPUD REPORT  | PRODUCTION START OR RESUME  | ☐ F             | RECLAMATION OF WELL SITE                            | RECOMPLETE DIFFERENT FORMATION   |
| Date of Spud:  | REPERFORATE CURRENT FORMATION   |                 | SIDETRACK TO REPAIR WELL                            | TEMPORARY ABANDON  |
|  | TUBING REPAIR   |                 | /ENT OR FLARE                                       | WATER DISPOSAL   |
| DRILLING REPORT     Report Date:   | WATER SHUTOFF   |                 | SI TA STATUS EXTENSION                              | APD EXTENSION  |
| 11/5/2012  | WILDCAT WELL DETERMINATION  |                 | OTHER   | OTHER:   |
| 44 DESCRIPE PROPOSED OR  |   |                 |   | <u>'</u>   |
|  | the month of October 2012   | -               | _   | Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY November 05, 2012 |
| NAME (PLEASE PRINT)  | PHONE NUMI  | BER             | TITLE   |  |
| Jaime Scharnowske  | 720 929-6304  |                 | Regulartory Analyst                                 |  |
| SIGNATURE<br>N/A   |   |                 | <b>DATE</b> 11/5/2012                               |  |

Sundry Number: 32864 API Well Number: 43047526070000

| STATE OF UTAH  |  |          |  |  | FORM 9 |
|--|--|----------|--|--|--------|
| DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING |  |          | 5.LEASE DESIGNATION AND SERIAL N<br>UTU-010950-A | UMBER:   |        |
| SUNDRY NOTICES AND REPORTS ON WELLS                              |  |          | 6. IF INDIAN, ALLOTTEE OR TRIBE NA<br>Ute In     | ME:  |        |
|  | posals to drill new wells, significantl<br>reenter plugged wells, or to drill horiz<br>n for such proposals. |          |  | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES                                       |        |
| 1. TYPE OF WELL<br>Gas Well                                      |  |          |  | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S  |        |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON                  | ISHORE, L.P.   |          |  | 9. API NUMBER:<br>43047526070000   |        |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th         | h Street, Suite 600, Denver, CO, 802   |          | NE NUMBER: 720 929-6                             | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES                                     |        |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL |  |          |  | COUNTY:<br>UINTAH  |        |
| QTR/QTR, SECTION, TOWNSH   | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Me  | eridian: | S  | STATE:<br>UTAH   |        |
| 11. CHECK  | K APPROPRIATE BOXES TO INDIC.  | ATE N    | ATURE OF NOTICE, REPOR                           | RT, OR OTHER DATA  |        |
| TYPE OF SUBMISSION   |  |          | TYPE OF ACTION                                   |  |        |
|  | ACIDIZE  |          | ALTER CASING                                     | CASING REPAIR  |        |
| NOTICE OF INTENT Approximate date work will start:               | CHANGE TO PREVIOUS PLANS   |          | CHANGE TUBING                                    | CHANGE WELL NAME   |        |
|  | CHANGE WELL STATUS   |          | COMMINGLE PRODUCING FORMATIONS                   | CONVERT WELL TYPE  |        |
| SUBSEQUENT REPORT Date of Work Completion:                       | DEEPEN   | ☐ F      | RACTURE TREAT                                    | NEW CONSTRUCTION   |        |
|  | OPERATOR CHANGE  | ☐ F      | PLUG AND ABANDON                                 | PLUG BACK  |        |
| SPUD REPORT  | PRODUCTION START OR RESUME   | □ F      | RECLAMATION OF WELL SITE                         | RECOMPLETE DIFFERENT FORMATION   |        |
| Date of Spud:  | REPERFORATE CURRENT FORMATION  |          | SIDETRACK TO REPAIR WELL                         | TEMPORARY ABANDON  |        |
|  | TUBING REPAIR  |          | /ENT OR FLARE                                    | WATER DISPOSAL   |        |
| ✓ DRILLING REPORT Report Date:                                   | WATER SHUTOFF  |          | SI TA STATUS EXTENSION                           | APD EXTENSION  |        |
| 12/4/2012  |  |          | SI TA STATUS EXTENSION                           |  |        |
|  | WILDCAT WELL DETERMINATION   |          | OTHER  | OTHER:   |        |
| No Activity for t  | completed operations. Clearly show he month of November 207  | 12. W    | /ell TD at 3,004.                                | Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ON December 05, 2012 |        |
| NAME (PLEASE PRINT)<br>Lindsey Frazier                           | <b>PHONE NUN</b><br>720 929-6857   | IBER     | TITLE<br>Regulatory Analyst II                   |  |        |
| SIGNATURE<br>N/A   |  |          | <b>DATE</b> 12/4/2012                            |  |        |

Sundry Number: 34340 API Well Number: 43047526070000

| STATE OF UTAH  |   |          |   |  | FORM 9 |
|--|---|----------|---|--|--------|
| DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING   |   |          | 5.LEASE DESIGNATION AND SERIA<br>UTU-010950-A | AL NUMBER:                                       |        |
| SUNDRY NOTICES AND REPORTS ON WELLS  |   |          | 6. IF INDIAN, ALLOTTEE OR TRIBE<br>Ute In     | : NAME:  |        |
|  | posals to drill new wells, significant<br>reenter plugged wells, or to drill hori:<br>n for such proposals. |          |   | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES   |        |
| 1. TYPE OF WELL<br>Gas Well  |   |          |   | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S        |        |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON  | ISHORE, L.P.  |          |   | 9. API NUMBER:<br>43047526070000                 |        |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th   | n Street, Suite 600, Denver, CO, 802  |          | NE NUMBER:<br>79 720 929-6                    | 9. FIELD and POOL or WILDCAT:<br>5NATURAL BUTTES |        |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL   |   |          |   | COUNTY:<br>UINTAH                                |        |
| QTR/QTR, SECTION, TOWNSH<br>Qtr/Qtr: NWNE Section: 2   | HP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Me  | eridian: | S   | STATE:<br>UTAH                                   |        |
| 11.<br>CHECI   | K APPROPRIATE BOXES TO INDIC  | ATE N    | ATURE OF NOTICE, REPOR                        | RT, OR OTHER DATA                                |        |
| TYPE OF SUBMISSION   |   |          | TYPE OF ACTION                                |  |        |
| _  | ACIDIZE   |          | ALTER CASING                                  | CASING REPAIR                                    |        |
| NOTICE OF INTENT Approximate date work will start:   | CHANGE TO PREVIOUS PLANS  |          | CHANGE TUBING                                 | CHANGE WELL NAME                                 |        |
|  | CHANGE WELL STATUS  |          | COMMINGLE PRODUCING FORMATIONS                | CONVERT WELL TYPE                                |        |
| SUBSEQUENT REPORT Date of Work Completion:   | DEEPEN  | □ F      | FRACTURE TREAT                                | NEW CONSTRUCTION                                 |        |
|  | OPERATOR CHANGE   | F        | PLUG AND ABANDON                              | PLUG BACK  |        |
| SPUD REPORT  | PRODUCTION START OR RESUME  | □ F      | RECLAMATION OF WELL SITE                      | RECOMPLETE DIFFERENT FORMA                       | TION   |
| Date of Spud:  | REPERFORATE CURRENT FORMATION   |          | SIDETRACK TO REPAIR WELL                      | TEMPORARY ABANDON                                |        |
|  | TUBING REPAIR   |          | /ENT OR FLARE                                 | WATER DISPOSAL                                   |        |
| ✓ DRILLING REPORT  Report Date:  | WATER SHUTOFF   |          | SI TA STATUS EXTENSION                        | APD EXTENSION                                    |        |
| 2/4/2013   | WILDCAT WELL DETERMINATION  | $\Box$   | OTHER   | OTHER:   | _      |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  No Activity for the month of January 2013. Well TD at 3,026  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY  February 08, 2013 |   |          |   |  |        |
| NAME (PLEASE PRINT)<br>Laura Abrams  | <b>PHONE NUM</b><br>720 929-6356  | IBER     | TITLE<br>Regulatory Analyst II                |  |        |
| SIGNATURE<br>N/A   |   |          | <b>DATE</b> 2/4/2013                          |  |        |

|   | FORM 9 5.LEASE DESIGNATION AND SERIAL NUMBER:  |   |  |
|---|--|---|--|
|   | UTU-010950-A   |   |  |
| SUNDR   | RY NOTICES AND REPORTS ON  | WELLS   | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In  |
| Do not use this form for pro<br>current bottom-hole depth,<br>FOR PERMIT TO DRILL form  | posals to drill new wells, significantly deep<br>reenter plugged wells, or to drill horizontal<br>n for such proposals.  | en existing wells below aterals. Use APPLICATION  | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES   |
| 1. TYPE OF WELL<br>Gas Well   |  |   | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S  |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON   | NSHORE, L.P.   |   | 9. API NUMBER:<br>43047526070000   |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl  | PHC<br>h Street, Suite 600, Denver, CO, 80217 377  | NE NUMBER:<br>79 720 929-6  | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES   |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL  |  |   | COUNTY:<br>UINTAH  |
| QTR/QTR, SECTION, TOWNSH  | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Meridian:   | s   | STATE:<br>UTAH   |
| 11. CHEC  | K APPROPRIATE BOXES TO INDICATE N  | ATURE OF NOTICE, REPOR  | RT, OR OTHER DATA  |
| TYPE OF SUBMISSION  |  | TYPE OF ACTION  |  |
| The operator reproduction casing selow describes ho approximately 4,9 centralizer and cement a stop ring to keep Tool at approximately ackeep the CMT Bases | CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION  TUBING REPAIR  WATER SHUTOFF  WILDCAT WELL DETERMINATION  COMPLETED OPERATIONS. Clearly show all perequests authorization to place attring and run a 2 stage cement to ensure cement is properly cit wit will be conducted: Run I-8950 feet where the DV Tool will ent basket on the I-80 joint below the CMT Basket at top of the totately 4,950 feet. Run LTC/DXQ ement basket on the Crossover sket at bottom of the tool joint). | a DV tool in the job after setting the culated to surface. O casing from TD to be placed. Run a low the DV Tool (use lool joint). Run a DV crossover. Run a (use a stop ring to Run DXQ casing to | CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  APD EXTENSION  OTHER: DV Tool  Depths, volumes, etc.  Accepted by the Utah Division of Oil, Gas and Mining  Date: February 19, 2013  By: |
| surface. The actual depth details will be captured in the well completion report.   |  |   |  |
| NAME (PLEASE PRINT)<br>Lindsey Frazier  | <b>PHONE NUMBER</b> 720 929-6857   | TITLE<br>Regulatory Analyst II  |  |
| SIGNATURE<br>N/A  |  | DATE<br>2/15/2013   |  |

Sundry Number: 35113 API Well Number: 43047526070000

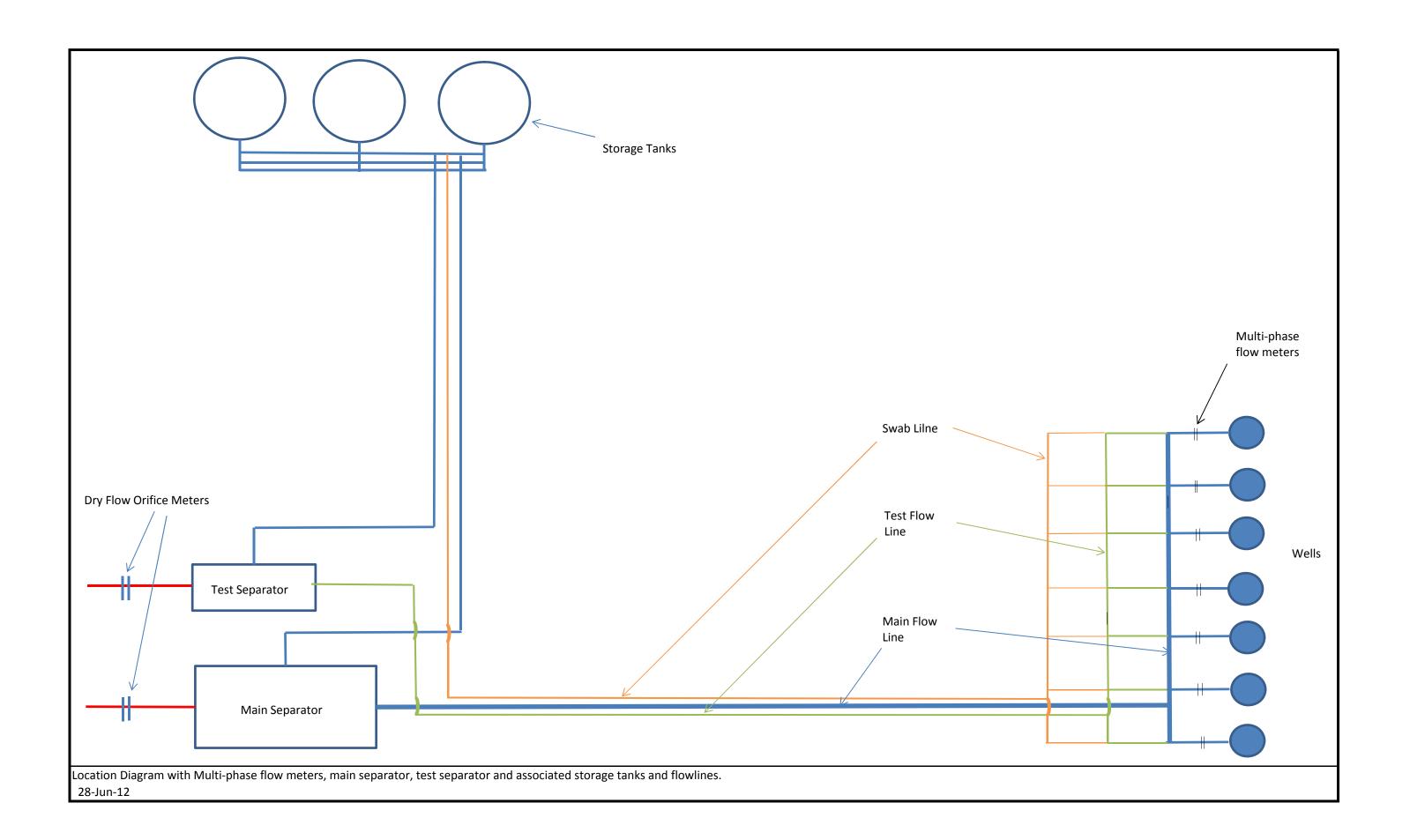
|  | STATE OF UTAH   |   | FORM 9  |
|--|---|---|---|
| DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING               |   |   | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A |
| SUNDRY NOTICES AND REPORTS ON WELLS  |   |   | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In     |
|  | posals to drill new wells, significantly or<br>reenter plugged wells, or to drill horizon<br>n for such proposals.  |   | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES      |
| 1. TYPE OF WELL<br>Gas Well  |   |   | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S           |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON                                | NSHORE, L.P.  |   | 9. API NUMBER:<br>43047526070000                    |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl                       | h Street, Suite 600, Denver, CO, 80217  | <b>PHONE NUMBER:</b> 3779 720 929-6   | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES    |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL               |   |   | COUNTY:<br>UINTAH                                   |
| QTR/QTR, SECTION, TOWNSH   | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Meric  | ian: S  | STATE:<br>UTAH                                      |
| 11. CHEC   | K APPROPRIATE BOXES TO INDICAT  | E NATURE OF NOTICE, REPOR   | RT, OR OTHER DATA                                   |
| TYPE OF SUBMISSION   |   | TYPE OF ACTION  |   |
|  | ACIDIZE   | ALTER CASING  | CASING REPAIR                                       |
| NOTICE OF INTENT Approximate date work will start:                             | CHANGE TO PREVIOUS PLANS  | CHANGE TUBING   | CHANGE WELL NAME                                    |
| Approximate date not a min claim   | CHANGE WELL STATUS  | COMMINGLE PRODUCING FORMATIONS  | CONVERT WELL TYPE                                   |
| SUBSEQUENT REPORT Date of Work Completion:                                     | DEEPEN  | FRACTURE TREAT  | ☐ NEW CONSTRUCTION                                  |
| 2/26/2013  | OPERATOR CHANGE   | PLUG AND ABANDON  | PLUG BACK   |
|  | PRODUCTION START OR RESUME  | RECLAMATION OF WELL SITE  | RECOMPLETE DIFFERENT FORMATION                      |
| SPUD REPORT  Date of Spud:   |   |   |   |
|  | L REPERFORATE CURRENT FORMATION   | SIDETRACK TO REPAIR WELL  | ☐ TEMPORARY ABANDON                                 |
| DRILLING REPORT  | L TUBING REPAIR   |   | ☐ WATER DISPOSAL                                    |
| Report Date:   | ☐ WATER SHUTOFF   | SI TA STATUS EXTENSION  | APD EXTENSION                                       |
|  | WILDCAT WELL DETERMINATION  | ✓ OTHER   | OTHER: ACTS Pit                                     |
| FINISHED DRILLING<br>CASING. RELEASE<br>AND CEMENT WILL E<br>WELL IS WAITING O | COMPLETED OPERATIONS. Clearly show as TO 10300' ON 2/24/2013. CE ED H&P 298 RIG ON 2/26/2013 BE INCLUDED WITH THE WELL ON FINAL COMPLETION ACTIV REFURBISHED AND UTILIZED SYSTEM. | MENTED PRODUCTION . DETAILS OF CASING . COMPLETION REPORT. ITIES. THE PIT ON THIS |   |
| NAME (PLEASE PRINT) Laura Abrams   | PHONE NUMB<br>720 929-6356  | R TITLE Regulatory Analyst II   |   |
| SIGNATURE  |   | DATE  |   |
| N/A  |   | 2/28/2013   |   |

|  | FORM 9   |   |  |
|--|--|---|--|
|  | 5.LEASE DESIGNATION AND SERIAL NUMBER:<br>  UTU-010950-A   |   |  |
| SUNDRY NOTICES AND REPORTS ON WELLS  |  |   | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In  |
| Do not use this form for pro<br>current bottom-hole depth,<br>FOR PERMIT TO DRILL form   | posals to drill new wells, significantly deep<br>reenter plugged wells, or to drill horizontal<br>n for such proposals.          | pen existing wells below<br>laterals. Use APPLICATION   | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES   |
| 1. TYPE OF WELL<br>Gas Well  |  |   | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S  |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON  | ISHORE, L.P.   |   | 9. API NUMBER:<br>43047526070000   |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl   | PHO<br>h Street, Suite 600, Denver, CO, 80217 37   | ONE NUMBER: 720 929-6   | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES   |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL   |  |   | COUNTY:<br>UINTAH  |
| QTR/QTR, SECTION, TOWNSH   | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Meridian:   | : S   | STATE:<br>UTAH   |
| 11. CHEC   | K APPROPRIATE BOXES TO INDICATE N  | IATURE OF NOTICE, REPOR   | RT, OR OTHER DATA  |
| TYPE OF SUBMISSION   |  | TYPE OF ACTION  |  |
| NOTICE OF INTENT Approximate date work will start: 2/6/2013  SUBSEQUENT REPORT Date of Work Completion:  SPUD REPORT Date of Spud:   | CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION | ALTER CASING CHANGE TUBING COMMINGLE PRODUCING FORMATIONS FRACTURE TREAT PLUG AND ABANDON RECLAMATION OF WELL SITE SIDETRACK TO REPAIR WELL VENT OR FLARE | CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL |
| DRILLING REPORT Report Date:   |  | SI TA STATUS EXTENSION OTHER  | OTHER: Multi-phase meter   |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee respectfully requests the option to measure the total gas produced from the above captioned pad and allocate gas production to the individual wells on the pad based upon multi-phase flow measurement at each well and periodic well tests. The following wells are on the NBU 921-22B pad: NBU 921-22A1S, 4304752607 NBU 921-22B1BS, 4304752557 NBU 921-22B1CS, 4304752556 NBU 921-22B4BS, 4304752555 NBU 921-22B4CS, 4304752554 NBU 921-22G1CS, 4304752553 Please see the attached.  By:    Approved by the Utah Division of Oil, Gas and Mining |  |   |  |
| NAME (PLEASE PRINT)<br>Laura Abrams  | <b>PHONE NUMBER</b> 720 929-6356   | TITLE<br>Regulatory Analyst II  |  |
| SIGNATURE<br>N/A   |  | DATE 2/6/2013   |  |

Sundry Number: 34540 API Well Number: 43047526070000

The fluids from each well will be measured utilizing a multi-phase flow meter and then directed to a common separator for all wells on the pad. Liquids would be directed to tanks and the gas from all the wells measured through a calibrated orifice meter. The volume of gas measured through this meter, plus fuel gas consumed on location, will be the volume of gas that is produced from the pad. Gas volume for each individual well on the pad will be based on an allocation formula utilizing the total pad volume measured plus fuel gas consumed and the calculated volume from each well utilizing the multi-phase flow meters. The multi-phase flow meter volume calculation will be calibrated by periodic individual well tests.

RECEIVED: Feb. 06, 2013





## **PRODUCTION CASING NBU 921-22A1S**

5-42, Togs RalE 43047 52607

Anadarko - H&P 298 < hp298@gesmail.net>

To: caroldaniels@utah.gov

Sat, Feb 23, 2013 at 3:37 PM

CAROL.

WILL TD IN THE PM SATURDAY 2/23/2013 @ 10,300, ON NBU 921-22A1S,H&P 298,WE WILL BE RUNNING 41/2 PROD CSG & CEMENTING, / SUN EVE & MONDAY 2/25/13 & WE WILL BE MOVING THE RIG TO NBU 921-22C PAD

**THANKS** 

JIM MURRAY

H&P 298

OFFICE 435 828-0957

CELL 425 828-0956

RECEIVED FEB 2 3 2013

DIV. OF OIL, GAS & MINING



## **PRODUCTION CASING NBU 921-22A1S**

5-42, Togs RalE 43047 52607

Anadarko - H&P 298 < hp298@gesmail.net>

To: caroldaniels@utah.gov

Sat, Feb 23, 2013 at 3:37 PM

CAROL.

WILL TD IN THE PM SATURDAY 2/23/2013 @ 10,300, ON NBU 921-22A1S,H&P 298,WE WILL BE RUNNING 41/2 PROD CSG & CEMENTING, / SUN EVE & MONDAY 2/25/13 & WE WILL BE MOVING THE RIG TO NBU 921-22C PAD

**THANKS** 

JIM MURRAY

H&P 298

OFFICE 435 828-0957

CELL 425 828-0956

RECEIVED FEB 2 3 2013

DIV. OF OIL, GAS & MINING

|  | STATE OF UTAH  |         |                                |   | FORM 9               |
|--|--|---------|--------------------------------|---|----------------------|
| ı  | DEPARTMENT OF NATURAL RESOUI<br>DIVISION OF OIL, GAS, AND M  |         | 3                              | 5.LEASE DESIGNATION AND UTU-010950-A  | SERIAL NUMBER:       |
| SUNDR  | Y NOTICES AND REPORTS  | S ON    | WELLS                          | 6. IF INDIAN, ALLOTTEE OR<br>Ute In   | TRIBE NAME:          |
|  | posals to drill new wells, significantl<br>reenter plugged wells, or to drill horiz<br>n for such proposals. |         |                                | 7.UNIT or CA AGREEMENT<br>NATURAL BUTTES  | NAME:                |
| 1. TYPE OF WELL<br>Gas Well                                      |  |         |                                | 8. WELL NAME and NUMBER<br>NBU 921-22A1S  | ₹:                   |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON                  | ISHORE, L.P.   |         |                                | 9. API NUMBER:<br>43047526070000  |                      |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th         | n Street, Suite 600, Denver, CO, 802   |         | ONE NUMBER:<br>'9 720 929-6    | 9. FIELD and POOL or WILD<br>5NATURAL BUTTES  | CAT:                 |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL |  |         |                                | COUNTY:<br>UINTAH   |                      |
| QTR/QTR, SECTION, TOWNSH   | HP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Me   | ridian: | S                              | STATE:<br>UTAH  |                      |
| 11. CHECK  | K APPROPRIATE BOXES TO INDIC   | ATE N   | ATURE OF NOTICE, REPOR         | T, OR OTHER DATA  |                      |
| TYPE OF SUBMISSION   |  |         | TYPE OF ACTION                 |   |                      |
|  | ACIDIZE  |         | ALTER CASING                   | CASING REPAIR   |                      |
| NOTICE OF INTENT Approximate date work will start:               | CHANGE TO PREVIOUS PLANS   |         | CHANGE TUBING                  | CHANGE WELL NAME  |                      |
| Approximate date work will start.                                | CHANGE WELL STATUS   |         | COMMINGLE PRODUCING FORMATIONS | CONVERT WELL TYPE   |                      |
| SUBSEQUENT REPORT Date of Work Completion:                       | DEEPEN   | □ F     | FRACTURE TREAT                 | NEW CONSTRUCTION  |                      |
|  | OPERATOR CHANGE  |         | PLUG AND ABANDON               | PLUG BACK   |                      |
|  | PRODUCTION START OR RESUME   |         | RECLAMATION OF WELL SITE       | RECOMPLETE DIFFEREN   | T FORMATION          |
| SPUD REPORT Date of Spud:  |  |         |                                | TEMPORARY ABANDON   | TIORMATION           |
|  | REPERFORATE CURRENT FORMATION  |         | SIDETRACK TO REPAIR WELL       |   |                      |
| ✓ DRILLING REPORT  | L TUBING REPAIR  |         | VENT OR FLARE                  | WATER DISPOSAL  |                      |
| Report Date:<br>4/4/2013   | WATER SHUTOFF  | ∐ \$    | SI TA STATUS EXTENSION         | APD EXTENSION   |                      |
| 1, 1, 2010   | WILDCAT WELL DETERMINATION   | □ (     | OTHER                          | OTHER:  |                      |
| No Activity for  | the month of March 2013  | . Wel   | II TD at 10,300                | epths, volumes, etc.  Accepted by the Utah Division Oil, Gas and Mir FOR RECORI April 05, 201 | of<br>ning<br>D ONLY |
| NAME (PLEASE PRINT)<br>Luke Urban                                | <b>PHONE NUM</b><br>720 929-6501   | IBER    | TITLE Regulatory Specialist    |   |                      |
| SIGNATURE<br>N/A   |  |         | <b>DATE</b> 4/4/2013           |   |                      |

Sundry Number: 37402 API Well Number: 43047526070000

|  | STATE OF UTAH  |         |                                | FORM 9  |
|--|--|---------|--------------------------------|---|
| ſ  | DEPARTMENT OF NATURAL RESOUR<br>DIVISION OF OIL, GAS, AND M  |         | 1                              | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A |
| SUNDR  | Y NOTICES AND REPORTS  | ON      | WELLS                          | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In     |
|  | posals to drill new wells, significantl<br>reenter plugged wells, or to drill horiz<br>n for such proposals. |         |                                | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES      |
| 1. TYPE OF WELL<br>Gas Well                                      |  |         |                                | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S           |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON                  | ISHORE, L.P.   |         |                                | 9. API NUMBER:<br>43047526070000                    |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th         | n Street, Suite 600, Denver, CO, 802   |         | <b>NE NUMBER:</b> 9 720 929-6  | 9. FIELD and POOL or WILDCAT:<br>5NATURAL BUTTES    |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL |  |         |                                | COUNTY:<br>UINTAH                                   |
| QTR/QTR, SECTION, TOWNSH   | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Me  | ridian: | S                              | STATE:<br>UTAH                                      |
| 11. CHECH  | K APPROPRIATE BOXES TO INDICA  | ATE N   | ATURE OF NOTICE, REPOR         | RT, OR OTHER DATA                                   |
| TYPE OF SUBMISSION   |  |         | TYPE OF ACTION                 |   |
|  | ACIDIZE  |         | ALTER CASING                   | CASING REPAIR                                       |
| NOTICE OF INTENT Approximate date work will start:               | CHANGE TO PREVIOUS PLANS   |         | CHANGE TUBING                  | CHANGE WELL NAME                                    |
|  | CHANGE WELL STATUS   |         | COMMINGLE PRODUCING FORMATIONS | CONVERT WELL TYPE                                   |
| SUBSEQUENT REPORT Date of Work Completion:                       | DEEPEN   | □ F     | RACTURE TREAT                  | NEW CONSTRUCTION                                    |
|  | OPERATOR CHANGE  | F       | PLUG AND ABANDON               | PLUG BACK   |
| SPUD REPORT  | PRODUCTION START OR RESUME   | □ F     | RECLAMATION OF WELL SITE       | RECOMPLETE DIFFERENT FORMATION                      |
| Date of Spud:  | REPERFORATE CURRENT FORMATION  |         | SIDETRACK TO REPAIR WELL       | ☐ TEMPORARY ABANDON                                 |
|  | TUBING REPAIR  |         | ENT OR FLARE                   | WATER DISPOSAL                                      |
| DRILLING REPORT Report Date:                                     | WATER SHUTOFF  |         | SI TA STATUS EXTENSION         | APD EXTENSION                                       |
| 5/3/2013   | WILDCAT WELL DETERMINATION   |         | NTHED.                         | OTHER:  |
|  |  |         | JINEN                          | <u> </u>  |
|  | COMPLETED OPERATIONS. Clearly show, finishing well completion  |         |                                |   |
|  |  |         |                                |   |
| NAME (PLEASE PRINT) Jaime Scharnowske                            | <b>PHONE NUM</b><br>720 929-6304   | IBER    | TITLE<br>Regulartory Analyst   |   |
| SIGNATURE<br>N/A   |  |         | <b>DATE</b> 5/3/2013           |   |

RECEIVED: May. 03, 2013

Sundry Number: 37227 API Well Number: 43047526070000

|  | STATE OF UTAH   |                                       | FORM 9  |
|--|---|---------------------------------------|---|
|  | DEPARTMENT OF NATURAL RESOURG<br>DIVISION OF OIL, GAS, AND MI   |                                       | 5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-010950-A |
| SUNDR  | RY NOTICES AND REPORTS  | ON WELLS                              | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME:<br>Ute In     |
|  | posals to drill new wells, significantly<br>reenter plugged wells, or to drill horizon<br>for such proposals. |                                       | 7.UNIT or CA AGREEMENT NAME:<br>NATURAL BUTTES      |
| 1. TYPE OF WELL<br>Gas Well                                      |   |                                       | 8. WELL NAME and NUMBER:<br>NBU 921-22A1S           |
| 2. NAME OF OPERATOR:<br>KERR-MCGEE OIL & GAS ON                  | NSHORE, L.P.  |                                       | 9. API NUMBER:<br>43047526070000                    |
| <b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl         | h Street, Suite 600, Denver, CO, 8021   | <b>PHONE NUMBER:</b> 7 3779 720 929-6 | 9. FIELD and POOL or WILDCAT:<br>5NATERAL BUTTES    |
| 4. LOCATION OF WELL<br>FOOTAGES AT SURFACE:<br>0943 FNL 1835 FEL |   |                                       | COUNTY:<br>UINTAH                                   |
| QTR/QTR, SECTION, TOWNSH<br>Qtr/Qtr: NWNE Section: 2             | HIP, RANGE, MERIDIAN:<br>22 Township: 09.0S Range: 21.0E Meri   | idian: S                              | STATE:<br>UTAH                                      |
| 11. CHEC   | K APPROPRIATE BOXES TO INDICA   | TE NATURE OF NOTICE, REPOR            | RT, OR OTHER DATA                                   |
| TYPE OF SUBMISSION   |   | TYPE OF ACTION                        |   |
|  | ACIDIZE   | ALTER CASING                          | CASING REPAIR                                       |
| NOTICE OF INTENT Approximate date work will start:               | CHANGE TO PREVIOUS PLANS  | CHANGE TUBING                         | CHANGE WELL NAME                                    |
|  | CHANGE WELL STATUS  | COMMINGLE PRODUCING FORMATIONS        | CONVERT WELL TYPE                                   |
| SUBSEQUENT REPORT Date of Work Completion:                       | DEEPEN  | FRACTURE TREAT                        | ☐ NEW CONSTRUCTION                                  |
|  | OPERATOR CHANGE   | PLUG AND ABANDON                      | PLUG BACK   |
| SPUD REPORT  | ✓ PRODUCTION START OR RESUME  | RECLAMATION OF WELL SITE              | RECOMPLETE DIFFERENT FORMATION                      |
| Date of Spud:  | REPERFORATE CURRENT FORMATION   | SIDETRACK TO REPAIR WELL              | TEMPORARY ABANDON                                   |
|  | TUBING REPAIR   | VENT OR FLARE                         | WATER DISPOSAL                                      |
| DRILLING REPORT     Report Date:                                 | WATER SHUTOFF   | SI TA STATUS EXTENSION                | APD EXTENSION                                       |
| 5/1/2013   | WILDCAT WELL DETERMINATION  | OTHER                                 | OTHER:  |
| THE SUBJECT WELL   | COMPLETED OPERATIONS. Clearly show  WAS PLACED ON PRODUC' WELL HISTORY WILL BE SUBN COMPLETION REPORT.        | TION ON 05/01/2013. THE               |   |
| NAME (PLEASE PRINT)<br>Teena Paulo                               | <b>PHONE NUME</b><br>720 929-6236   | BER TITLE Staff Regulatory Specialist |   |
| SIGNATURE<br>N/A   |   | DATE 5/2/2013                         |   |
|  |   | , -,                                  |   |

| Form 3160-4<br>(August 2007) |                            |                     | DEPAR<br>BUREAU           | TMEN'               | T OF   |               | NTERIO       |                 |                       |                      |  |               | OM            | B No. 1         | PROVED<br>004-0137<br>y 31, 2010                                  |
|------------------------------|----------------------------|---------------------|---------------------------|---------------------|--------|---------------|--------------|-----------------|-----------------------|----------------------|--|---------------|---------------|-----------------|---|
|                              | WELL (                     | COMPL               | ETION C                   | R RE                | COI    | MPLE          | TION R       | EPOR            | T AND I               | LOG                  |  |               | ease Serial l |                 |   |
| 1a. Type of                  | Well                       | Oil Well            | <b>⊠</b> Gas <sup>v</sup> | Well                |        | Ory [         | Other        |                 |                       |                      |  |               |               |                 | r Tribe Name  |
| b. Type of                   | f Completion               | ☑ N<br>Othe         | ew Well                   | ☐ Wor               | k Ov   | er 🗆          | Deepen       | ☐ Pi            | lug Back              | ☐ Dif                | f. Resvr.                                |               | nit or CA A   |                 | ent Name and No.  |
| 2. Name of                   | Operator<br>MCGEE OIL      | 86480               | NICHODEE                  | DMail: to           |        |               | TEENA        |                 | )                     |                      |  | 8. L          | ease Name     | and We          | ell No.   |
|                              | PO BOX 1                   |                     | NSHOKEE                   | nviaii. te          | ena.   | .paulo @      | 3a           | Phone           | No. (includ           | e area co            | de)                                      |               | PI Well No    |                 |   |
| 4 Location                   | DENVER,<br>of Well (Rep    |                     |                           | d in acc            | ordon  | oce with l    |              |                 | 929-6236              |                      |  | 10.1          | Field and Do  | ol or l         | 43-047-52607<br>Exploratory                                       |
| At surfa                     | ` •                        |                     | . 1835FEL 4               |                     |        |               |              | •               | 113)                  |                      |  |               | IATURAL I     | BUTTE           | ES .  |
|                              | rod interval r             |                     |                           |                     |        | -             | 7.004001     | VV LOIT         |                       |                      |  |               |               |                 | Block and Survey<br>9S R21E Mer SLB                               |
|                              |                            | •                   | NL 484FEL                 | iL 3001             | INL 4  | FOOI LL       |              |                 |                       |                      |  |               | County or P   | arish           | 13. State<br>UT   |
| 14. Date Sp<br>07/19/2       | oudded                     | NL 407F1            | 15. Da                    | ate T.D.<br>/24/201 |        | hed           |              | $\Box$ D        | ate Complet<br>& A    | ted<br>Ready t       | o Prod.                                  |               | Elevations (  | DF, KI<br>12 KB | B, RT, GL)*   |
| 18. Total D                  | epth:                      | MD<br>TVD           | 10300<br>10070            |                     | 19.    | Plug Bac      | k T.D.:      | MD<br>TVD       | 10                    | )267<br>)037         | 20. Do                                   | epth Bri      | dge Plug Se   |                 | MD<br>TVD   |
|                              | lectric & Oth<br>R/CCL/TEM |                     | nical Logs R              | un (Subr            | nit co | opy of ea     | ch)          |                 |                       | W                    | as well cor<br>as DST run<br>rectional S | ?             | <b>⋈</b> No   | ☐ Yes           | s (Submit analysis)<br>s (Submit analysis)<br>s (Submit analysis) |
| 23. Casing ar                | nd Liner Reco              | ord (Repo           | rt all strings            | set in w            | ell)   |               |              |                 | _                     |                      | _  |               |               |                 |   |
| Hole Size                    | Size/G                     |                     | Wt. (#/ft.)               | Top<br>(ME          | ))     | Botton<br>(MD | )            | Cement<br>Depth |                       | of Sks. &<br>of Ceme | nt (B                                    | y Vol.<br>BL) | Cement 7      | Гор*            | Amount Pulled   |
| 20.000<br>11.000             |                            | 000 STL<br>25 IJ-55 | 36.7<br>28.0              |                     | 0      | 21            | 40<br>995    |                 |                       |                      | 28<br>596                                |               |               | 0               |   |
| 7.875                        |                            | 0 P-110             | 11.6                      |                     | 0      |               | 290          |                 |                       |                      | 300                                      |               |               | 1450            |   |
|                              |                            |                     |                           |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
|                              |                            |                     |                           |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
| 24. Tubing                   | Record                     |                     |                           |                     |        |               |              |                 |                       |                      |  |               | <u> </u>      |                 |   |
| Size                         | Depth Set (M               | ID) P               | acker Depth               | (MD)                | Siz    | ze E          | epth Set (   | MD)             | Packer De             | pth (MD              | ) Size                                   | De            | pth Set (M    | D)              | Packer Depth (MD)   |
| 2.375                        |                            | 9536                |                           |                     |        |               | 26 D. C      |                 | 1                     |                      |  |               |               |                 |   |
| 25. Producii                 |                            | $\overline{}$       | Ton                       | Т                   | Dot    | ttom          | 26. Perfor   |                 |                       |                      | Cina                                     | Τ,            | Vo. Holos     | Г               | Dorf Status   |
| A)                           | ormation<br>WASA           | ATCH                | Тор                       | 7163                | БО     | 7895          |              | Periorate       | ed Interval<br>7163 T | ΓO 7895              | Size<br>0.                               | 360           | No. Holes     | OPE             | Perf. Status  |
| B)                           | MESAVE                     |                     |                           | 8230                |        | 10047         |              |                 | 8230 TO               |                      |  | 360           |               | OPE             |   |
| C)                           |                            |                     |                           |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
| D)                           | acture, Treat              |                     | C                         | . E4-               |        |               |              |                 |                       |                      |  |               |               |                 |   |
|                              | Depth Interva              |                     | nent Squeeze              | e, Eic.             |        |               |              |                 | Amount an             | d Type o             | f Material                               |               |               |                 |   |
|                              |                            |                     | )47 PUMP 8                | ,683 BB             | LS SL  | ICK H2C       | 8 185,28     |                 |                       |                      |  |               |               |                 |   |
|                              |                            |                     |                           |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
|                              |                            |                     |                           |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
| 28 Producti                  | ion - Interval             | Δ                   |                           |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
| Date First                   | Test                       | Hours               | Test                      | Oil                 |        | Gas           | Water        | Oil             | Gravity               | Ga                   | s  | Product       | ion Method    |                 |   |
| Produced 05/01/2013          | Date 05/13/2013            | Tested<br>24        | Production                | BBL<br>0.0          | 1      | MCF<br>1653.0 | BBL 0.0      |                 | rr. API               | Gr                   | avity                                    |               | FLOV          | VS FRO          | OM WELL   |
| Choke                        | Tbg. Press.                | Csg.                | 24 Hr.                    | Oil                 |        | Gas           | Water        | Ga              | s:Oil                 | We                   | ell Status                               | ı             | . 201         |                 |   |
| Size 20/64                   | Flwg. 1005<br>SI           | Press.<br>1421.0    | Rate                      | BBL 0               |        | MCF<br>1653   | BBL 0        | Rat             | tio                   |                      | PGW                                      |               |               |                 |   |
|                              | tion - Interva             |                     | 1                         |                     |        |               |              |                 |                       |                      |  |               |               |                 |   |
| Date First<br>Produced       | Test<br>Date               | Hours<br>Tested     | Test<br>Production        | Oil<br>BBL          |        | Gas<br>MCF    | Water<br>BBL |                 | Gravity<br>rr. API    | Ga<br>Gr             | s<br>avity                               | Product       | ion Method    |                 |   |
| Choke<br>Size                | Tbg. Press.<br>Flwg.       | Csg.<br>Press.      | 24 Hr.<br>Rate            | Oil<br>BBL          |        | Gas<br>MCF    | Water<br>BBL | Ga:<br>Rai      | s:Oil<br>tio          | We                   | ell Status                               | 1             |               |                 |   |

<sup>(</sup>See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #208734 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

| Date First<br>Produced<br>Choke<br>Size | Test Date  Tbg. Press. Flwg. SI  Iuction - Interv  Test Date  Test Date  Test Date                     | Hours<br>Tested<br>Csg.<br>Press.                  | Test<br>Production<br>24 Hr.<br>Rate                           | Oil<br>BBL                                 | Gas<br>MCF               | Water                                       | 0:1 6                              |                          |                                    |   |                                      |
|---|--|--|--|--|--------------------------|---|------------------------------------|--------------------------|------------------------------------|---|--------------------------------------|
| Choke Size  28c. Proc                   | Date  Tbg. Press. Flwg. SI  Buction - Interv  Test Date  Tbg. Press.                                   | Csg.<br>Press.                                     | Production  24 Hr.   |  |                          |   | 0.1 0                              |                          |                                    |   |                                      |
| 28c. Prod                               | Five SI  SI  Unction - Interv  Test Date  Tbg. Press.  | Press.   |  |  |                          | BBL   | Oil Gravity<br>Corr. API           |                          | Gas<br>Gravity                     | Production Method                                 |                                      |
| Date First                              | Test Date  Tbg. Press.   |  |  | Oil<br>BBL                                 | Gas<br>MCF               | Water<br>BBL                                | Gas:Oil<br>Ratio                   |                          | Well Status                        |   |                                      |
|   | Date Tbg. Press.   | Hours  |  | <u> </u>                                   |                          |   |                                    |                          |                                    |   |                                      |
|   |  | Tested   | Test<br>Production   | Oil<br>BBL                                 | Gas<br>MCF               | Water<br>BBL                                | Oil Gravity<br>Corr. API           |                          | Gas<br>Gravity                     | Production Method                                 |                                      |
| Choke<br>Size                           | Flwg.<br>SI  | Csg.<br>Press.                                     | 24 Hr.<br>Rate   | Oil<br>BBL                                 | Gas<br>MCF               | Water<br>BBL                                | Gas:Oil<br>Ratio                   |                          | Well Status                        |   |                                      |
| 29. Dispo                               | osition of Gas(  | I<br>Sold, used                                    | l for fuel, vent   | ed, etc.)                                  |                          |   |                                    |                          |                                    |   |                                      |
|   | nary of Porous   | Zones (Ir  | nclude Aquife  | ers):                                      |                          |   |                                    |                          | 31. F                              | ormation (Log) Markers                            |                                      |
| tests,                                  | all important including dept ecoveries.  | zones of p<br>h interval                           | porosity and c<br>tested, cushic                               | ontents the                                | reof: Coreone tool ope   | d intervals and<br>n, flowing and           | l all drill-ster<br>d shut-in pres | n<br>ssures              |                                    |   |                                      |
|   | Formation  |  | Тор  | Botton                                     | ı                        | Description                                 | ons, Content                       | s, etc.                  |                                    | Name  | Top<br>Meas. Depth                   |
| The<br>of the<br>from<br>was            | tional remarks<br>first 210 ft of t<br>e surface hole<br>4522 ft 452<br>run from 4522<br>ration report | he surface<br>was dril<br>25 ft. DQ<br>2 ft. to 10 | ce hole was<br>lled with an 1<br>X P-110 csg<br>1,290 ft. Atta | drilled witl<br>11 inch bit<br>I was run f | . A DV to                | ol was placed<br>ace to 4522 ft             | d in the wel<br>; LTC P-110        | I                        | B<br>  W<br>  W                    | REEN RIVER IRD'S NEST IAHOGANY //ASATCH IESAVERDE | 1903<br>2187<br>2695<br>5178<br>8140 |
|   | e enclosed attace  |  | s (1 full set re   | eg'd.)                                     |                          | 2. Geologic                                 | c Report                           |                          | 3. DST R                           | Leport 4. D                                       | virectional Survey                   |
|   | ndry Notice fo   | _  |  | -  | n                        | 6. Core An                                  | -                                  |                          | 7 Other:                           |   |                                      |
|   | eby certify that   |  | Electr   | ronic Subr                                 | nission #20              | mplete and co<br>08734 Verifie<br>E OIL&GAS | d by the BL<br>ONSHORE             | M Well In<br>LP, sent    | nformation S<br>to the Verna       | ole records (see attached in System.              | structions):                         |
| Signa                                   | uture  | (Electro   | nic Submissi   | ion)                                       |                          |   | Da                                 | ate <u>05/28/</u>        | 2013                               |   |                                      |
|   |  |  |  |  |                          |   |                                    |                          |                                    |   |                                      |
| Title 18 of the Ur                      | J.S.C. Section ited States any   | 1001 and<br>false, fic                             | Title 43 U.S. titious or frad                                  | C. Section ulent states                    | 1212, mak<br>nents or re | e it a crime for<br>presentations           | r any person<br>as to any ma       | knowingly<br>tter within | y and willfull<br>its jurisdiction | y to make to any department.                      | ent or agency                        |

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|                 |                   |                    |            | U          | S ROC       | KIES RE     | EGION            |  |
|-----------------|-------------------|--------------------|------------|------------|-------------|-------------|------------------|--|
|                 |                   |                    |            | Opera      | tion S      | Summa       | ry Report        |  |
| Well: NBU 921-  | 22A1S (ORANG      | E)                 |            |            |             |             | Spud Date: 8/2   | 28/2012  |
| Project: UTAH-U | -                 | ,                  | Site: NBL  | J 921-22E  | B PAD       |             | <del>-</del>     | Rig Name No: PROPETRO 11/11, H&P 298/298   |
| Event: DRILLIN  | G                 |                    | Start Date | e: 8/2/201 | 2           |             |                  | End Date: 2/26/2013  |
| Active Datum: R | KB @4,842.00u     | ısft (above Mean S | Sea        | UWI: N\    | N/NE/0/9    | )/S/21/E/22 | 2/0/0/26/PM/N/94 | 43/E/0/1835/0/0  |
| Date            | Time<br>Start-End | Duration (hr)      | Phase      | Code       | Sub<br>Code | P/U         | MD From (usft)   | Operation  |
| 8/28/2012       | 12:00 - 12:       | 30 0.50            | MIRU       | 01         | В           | Р           |                  | SPOT IN CATWALK AND PIPE RACKS. RIG UP<br>PUMP. PRIME PUMP. INSPECT RIG. SAFETY<br>MEETING   |
|                 | 12:30 - 13:       |                    | PRPSPD     | 06         | Α           | Р           |                  | PICK UP 12.25" BIT & 8" MUD MOTOR  |
|                 | 13:00 - 14:       |                    | DRLSUR     | 02         | В           | P           |                  | DRILL 12.25" SURFACE HOLE F/ 44'- 210' ROP= 166' @ 166 FPH WOB= 5/15K RPM= 45- POWERHEAD /// 79- MUD MOTOR UP/DN/RT= 37/33/34 SPP- ON/OFF= 800/400 M.W. 8.4# VIS 27 465 GPM PUMP RATE /// NO AIR TORQUE- ON/OFF=2600/1000 NOV - ONLINE   |
|                 | 14:00 - 14:       |                    | DRLSUR     | 06         | Α           | Р           |                  | TOOH & LAY DOWN 12.25" BIT   |
|                 | 14:30 - 16:       |                    | DRLSUR     | 06         | Α           | Р           |                  | PICK UP 11" BIT, DIR. TOOLS, SCRIBE & TIH  |
| 0/00/00/0       | 16:00 - 0:0       |                    | DRLSUR     | 02         | D           | Р           |                  | DRILL 11" SURFACE HOLE F/ 210'- 1390' ROP= 1180' @ 145 FPH WOB= 18/20K RPM= 50- POWERHEAD /// 79- MUD MOTOR UP/DN/RT= 70/58/63 ~ 7K DRAG SPP- ON/OFF=1200/1000 M.W. 8.4# VIS 28 465 GPM PUMP RATE /// NO AIR TORQUE- ON/OFF= 3000/2400 HOLE IN GOOD SHAPE 8.5' ABOVE & 8' RIGHT OF TARGET LINE 254' / 19.8% SLIDE NOV - ONLINE 100% RETURNS  |
| 8/29/2012       | 0:00 - 5:0        | 00 5.00            | DRLSUR     | 02         | D           | P           |                  | DRILL 11" SURFACE HOLE F/ 1390'- 1765' ROP= 375' @ 75 FPH WOB= 18/20K RPM= 50- POWERHEAD /// 79- MUD MOTOR UP/DN/RT= 75/58/65 ~ 10K DRAG SPP- ON/OFF= 1450 / 1250 M.W. 8.4# VIS 28 465 GPM PUMP RATE /// NO AIR TORQUE- ON/OFF= 3000/1800 HOLE IN GOOD SHAPE 5' BELOW & 5' RIGHT OF TARGET LINE 406' / 27.5% SLIDE NOV - ONLINE 100% RETURNS |

5/16/2013 12:19:40PM 1

<u> Sundry Number: 53183 API Well Number: 43047526070000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Project: UTAH-UINTAH Site: NBU 921-22B PAD Rig Name No: PROPETRO 11/11, H&P 298/298 **Event: DRILLING** End Date: 2/26/2013 Start Date: 8/2/2012 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 5:00 - 8:00 3.00 DRLSUR 02 Ρ D DRILL 11" SURFACE HOLE F/ 1765' - 1990' ROP= 225' @ 75 FPH WOB= 18/20K RPM= 50- POWERHEAD /// 79- MUD MOTOR UP/DN/RT= 81/56/68 ~ 13K DRAG SPP- ON/OFF= 1470/1310 M.W. 8.4# VIS 28 491 GPM PUMP RATE /// NO AIR TORQUE- ON/OFF= 3000/1700 HOLE IN GOOD SHAPE OF TARGET LINE % SLIDE **NOV - ONLINE** 100% RETURNS 8:00 - 13:00 5.00 **DRLSUR** 80 \*\*\* HYDRAULIC HOSE FAILURE 13:00 - 0:00 D Р 11.00 DRLSUR 02 DRILL 11" SURFACE HOLE F/ 1990' - 2770' 780' @ 70.9 FPH W.O.B = 18/20K RPM 45 POWERHEAD / 67 MUD MOTOR UP/DWNROT = 94/65/78 PSI ON/OFF = 1600/1400 M.W. 8.5# VIS 27 491 GPM PUMP RATE / NO AIR TORQUE ON/OFF = 3000/1800 **NOV-ONLINE** 100% RETURNS 11' HIGH 3' LEFT OF TARGET SLID 572' / 22.5% 0:00 - 4:00 8/30/2012 4.00 DRLSUR 02 D Ρ DRILL 11" SURFACE HOLE F/ 2770' - T/3004' ROP= 234' @ 58.5' FPH RPM = 45 POWERHEAD / 67 MUD MOTOR UP/DWN/ROT 97/70/80 17K DRAG PSI ON/OFF = 1750/1550 M.W. 8.5# VIS 27 491 GPM PUMP RATE / NO AIR TORQUE ON/OFF = 3000/1850 **NOV- ONLINE** HOLE CONDITION = GOOD / GAS 4' HIGH .01' LEFT OF TARGET SLID 662' / 23.7% 4:00 - 6:00 2.00 DRLSUR 05 С Ρ CIRCULATE FOR CASING 6:00 - 9:30 3.50 Р LDDS,BHA & DIRECTIONAL TOOLS DRLSUR 06 Α 9:30 - 10:30 1.00 **DRLSUR** 12 Α MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. MOVE CSG INTO POSITION TO P/U. LOAD TRUCKS WITH DRILL PIPE FOR INSPECTION. 10:30 - 13:00 2.50 DRLSUR Р 12 C TIH 67 JOINTS 8 5/8", 28#, J55 CASING SHOE IS AT 2969' BAFFLE IS AT 2924.7' 13:00 - 15:00 2.00 **DRLSUR** 05 D Р (WASH DOWN CASING) CIRCULATE PRIOR TO **CEMENT JOB** 15:00 - 15:30 0.50 **DRLSUR** 12 В Ρ HOLD SAFETY MEETING PUMP ON CASING RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, RIG UP CEMENT TRUCKS, AND CEMENT HEAD.

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<u> Sundry Number: 53183 API Well Number: 43047526070000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Site: NBU 921-22B PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 11/11, H&P 298/298 **Event: DRILLING** End Date: 2/26/2013 Start Date: 8/2/2012 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 15:30 - 17:00 1.50 **CSGSUR** 12 Ρ Ε RIG UP PRO PETRO PUMP TRUCK . LOAD PLUG TEST LINES TO 2000 PSI. PUMP 50 BBLS WATER FOLLOWED BY 20 BBL GEL WATER FLUSH FOLLOWED BY LEAD = 280sx CLASS G CMT @ 12.0 WT & 2.86 YIELD, TAIL = 166sx OF 15.8 WT & 1.15 YIELD. DROP PLUG & DISPLACE W/ 182 BBLS WATER. PLUG DOWN @ 15:37 08/30/2012 BUMP PLUG @ 1100 PSI - FINAL LIFT = 800 PSI. FLOAT DIDN'T HOLD. SHUT IN UNDER PRESSURE. W/ 1 BBL BACK FULL RETURNS THROUGH OUT JOB, 22 BBLS CMT TO SURFACE, PUMP 150 SX 15.8# CMT W/4% CALCIUM DOWN 1". CEMENT TO SURFACE. RELEASED RIG @ 17:00 2/19/2013 3:00 - 10:00 7.00 MIRU3 01 С Р SKID RIG TO NBU 921-22A1S WELL 6 OF 6 ,ALIGN OVER WELL 10:00 - 12:00 2.00 MIRU3 Р NIPPLE UP BOPE, RIG UP AFTER SKID 14 Α 12:00 - 12:30 PRPSPD 0.50 15 Р PRESSURE SURFACE CASING TO 1500 PSI / FOR 12:30 - 16:30 4.00 **PRPSPD** 15 Α Ρ H&P EQUIP / PRESSURE TEST PIPE RAMS, BLIND RAMS, IBOP, FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES, HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10 **MINUTES** 16:30 - 17:00 PRPSPD Р 0.50 15 TEST SWACO OBBIT VALVES, CAP ON ROT HEAD TO 1,000 PSI,RIG DOWN TESTER 17:00 - 19:30 2.50 **PRPSPD** 06 Ρ PICK UP M MTR,BIT,DIRECTIONAL TOOLS,INSTALL MWD, & ATTEMPT TO SURFACE TEST TOOLS, DISCOVER KELLY HOSE, FROZEN, REMOVE HOSE FROM TDS, RUN STEAM THRU HOSE 19:30 - 21:30 2.00 CTJSA SLIP & CUT 247' OF DRILL LINE PRPSPD 09 Α Р 21:30 - 22:00 0.50 Ρ **PRPSPD** 07 DAILY RIG SERVICE 22:00 - 0:00 2.00 **PRPSPD** \*\*\*THAW OUT FROZEN KELLY HOSE\*\*\* 08 В Ζ 2/20/2013 0:00 - 11:30 11.50 **PRPSPD** 80 В Z \*\*\*THAW OUT FROZEN KELLY HOSE(6' ICE PLUG) REMOVE KELLY HOSE FROM STAND PIPE, HOSE CLEAR OF ICE.REMOVE STAND PIPE VALVES @ RIG FLOOR, LINE FROZEN 6' ABOVE RIG FLOOR /THAW OUT STAND PIPE WITH STEAM, REPLACE WORN PADDLE IN 4" VALVE, ON MUD LINE \*\*\*\* 11:30 - 12:00 **PRPSPD** Р DAILY RIG SERVICE 0.50 07 Α 12:00 - 13:30 1.50 **PRPSPD** Ρ 06 Α SURFACE TEST TOOLS, TRIP IN HOLE TO 2,700' BREAK CIRC. 13:30 - 14:30 1.00 **PRPSPD** 07 В Р LEVEL DERRICK, INSTALL ROTATING HEAD, 14:30 - 15:00 0.50 **PRPSPD** 23 Ρ PRE SPUD INSPECTION 15:00 - 16:00 1 00 **DRLPRC** 02 F Р TAG CEMENT @ 2,882 DRILL FLOAT TRACK FROM 2,882 TO 3,026 BAFFLE @ 2,946 SHOE @

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2,991OPEN HOLE 2,991-3,026

|                           |                      |               |            | U          | S ROC       | KIES RI   | EGION            |  |
|---------------------------|----------------------|---------------|------------|------------|-------------|-----------|------------------|--|
|                           |                      |               |            | Opera      | tion S      | umma      | ry Report        |  |
| Well: NBU 921-2           | 22A1S (ORANGE)       |               |            |            |             |           | Spud Date: 8/2   | 28/2012  |
| Project: UTAH-L           | JINTAH               |               | Site: NBU  | 921-22E    | PAD         |           |                  | Rig Name No: PROPETRO 11/11, H&P 298/298   |
| Event: DRILLING           | <br>G                |               | Start Date | e: 8/2/201 | 2           |           |                  | End Date: 2/26/2013  |
| Active Datum: R<br>Level) | KB @4,842.00usft (al | bove Mean S   |            |            |             | /S/21/E/2 | 2/0/0/26/PM/N/94 | 43/E/0/1835/0/0  |
| Date                      | Time<br>Start-End    | Duration (hr) | Phase      | Code       | Sub<br>Code | P/U       | MD From (usft)   | Operation  |
|                           | 16:00 - 0:00         | 8.00          | DRLPRC     | 02         | В           | P         |                  | DRILL /SLIDE / SURVEY/ F/ 3,026 TO ,4,145 = 1,119' @ 139.8 FPH WOB 18,000-24,000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 122 PUMPS 130 SPM= 585 GPM PUMP PRESSURE ON/OFF BTM 2,040/ 1,600 TORQUE ON/OFF BTM 13,000/ 10,000 PICK UP WT 115,000 SLACK OFF WT 104,000 ROT WT 107,000 SLIDES 218' IN 180 MIN 19.4 % OF FOOTAGE DRILLED,37.5 %OF HRS DRILLED NO FLUID LOST PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.4 VIS 27 NOV-D WATER SWACO OFF LINE |
| 2/21/2013                 | 0:00 - 6:00          | 6.00          | DRLPRC     | 02         | В           | P         |                  | DRILL /SLIDE / SURVEY/ F/ 4,145 TO ,4,700 = 555 @ 92.5 FPH  WOB 18,000-24,000  TOP DRIVE RPM 60-75  MUD MOTOR RPM 122  PUMPS 130 SPM= 585 GPM  PUMP PRESSURE ON/OFF BTM 2,195/ 1,800  TORQUE ON/OFF BTM 13,000/ 9,000  PICK UP WT 125,000  SLACK OFF WT 110,000  ROT WT 117,000  SLIDES 170' IN 215 MIN 30.6 % OF FOOTAGE  DRILLED,59.7 %OF HRS DRILLED  NO FLUID LOST  PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER  MUD WT 8.4 VIS 27  NOV-D WATER      |

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|                 |                               |                  |                  | U          | S ROC       | KIES R    | EGION            |  |
|-----------------|-------------------------------|------------------|------------------|------------|-------------|-----------|------------------|--|
|                 |                               |                  |                  | Opera      | tion S      | umm       | ary Report       |  |
| Vell: NBU 921-  | 22A1S (ORANGE)                |                  |                  |            |             |           | Spud Date: 8/2   | 28/2012  |
| roject: UTAH-l  | JINTAH                        |                  | Site: NBU        | 921-22E    | B PAD       |           |                  | Rig Name No: PROPETRO 11/11, H&P 298/298   |
| vent: DRILLIN   | G                             |                  | Start Date       | e: 8/2/201 | 12          |           |                  | End Date: 2/26/2013  |
| active Datum: F | RKB @4,842.00usft (a          | bove Mean S      | sea              | UWI: N     | W/NE/0/9    | /S/21/E/2 | 2/0/0/26/PM/N/94 | 13/E/0/1835/0/0  |
| Date            | Time<br>Start-End             | Duration<br>(hr) | Phase            | Code       | Sub<br>Code | P/U       | MD From (usft)   | Operation  |
|                 | 6:00 - 14:00                  | 8.00             | DRLPRC           | 02         | В           | P         |                  | DRILL /SLIDE / SURVEY/ F/ 4,700 TO 5,642 = 942@ 117.75 FPH  WOB 18,000-24,000  TOP DRIVE RPM 60-75  MUD MOTOR RPM 122  PUMPS 130 SPM= 585 GPM  PUMP PRESSURE ON/OFF BTM 2,265/ 1,865  TORQUE ON/OFF BTM 11,000/ 7,000  PICK UP WT 152,000  SLACK OFF WT 118,000  ROT WT 135,000  SLIDES 237' IN 195 MIN 39.7% OF FOOTAGE  DRILLED,40.6 %OF HRS DRILLED  NO FLUID LOST  PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER  MUD WT 8.4 VIS 27  NOV-D WATER  SWACO OFF LINE |
|                 | 14:30 - 14:30<br>14:30 - 0:00 | 0.50<br>9.50     | DRLPRV<br>DRLPRV | 07<br>02   | В           | P         |                  | DAILY RIG SERVICE  DRILL /SLIDE / SURVEY/ F/5,642 TO 6,815 = 1,173@ 123.4 FPH  WOB 20,000-26,000  TOP DRIVE RPM 60-75  MUD MOTOR RPM 122  PUMPS 122 SPM= 550 GPM  PUMP PRESSURE ON/OFF BTM 2,410/ 2,075  TORQUE ON/OFF BTM 13,000/ 9,000  PICK UP WT 166,000  SLACK OFF WT 131,000  ROT WT 145,000  SLIDES 99' IN 137 MIN 8.43% OF FOOTAGE  DRILLED,24 %OF HRS DRILLED  NO FLUID LOST  PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER  MUD WT 8.4 VIS 27  NOV-D WATER |

5/16/2013 12:19:40PM 5

SWACO OFF LINE

|                            |                     |               |            | U          | S ROC       | KIES R    | EGION            |   |
|----------------------------|---------------------|---------------|------------|------------|-------------|-----------|------------------|---|
|                            |                     |               |            | Opera      | tion S      | umma      | ary Report       |   |
| Well: NBU 921-2            | 22A1S (ORANGE)      |               |            |            |             |           | Spud Date: 8/2   | 28/2012   |
| Project: UTAH-U            | JINTAH              |               | Site: NBL  | J 921-22E  | 3 PAD       |           |                  | Rig Name No: PROPETRO 11/11, H&P 298/298  |
| Event: DRILLING            | 3                   |               | Start Date | e: 8/2/201 | 12          |           |                  | End Date: 2/26/2013   |
| Active Datum: RI<br>Level) | KB @4,842.00usft (a | bove Mean S   | ea         | UWI: N     | W/NE/0/9    | /S/21/E/2 | 2/0/0/26/PM/N/94 | 43/E/0/1835/0/0   |
| Date                       | Time<br>Start-End   | Duration (hr) | Phase      | Code       | Sub<br>Code | P/U       | MD From (usft)   | Operation   |
| 2/22/2013                  | 0:00 - 6:00         | 6.00          | DRLPRV     | 02         | В           | P         |                  | DRILL /SLIDE / SURVEY/ F/ 6,815 TO ,7,275 = 460 @ 76.6 FPH  WOB 20,000-26,000  TOP DRIVE RPM 60-75  MUD MOTOR RPM 122  PUMPS 130 SPM= 550 GPM  PUMP PRESSURE ON/OFF BTM 2,550 /2,190  TORQUE ON/OFF BTM 13,000/ 9,000  PICK UP WT 173,000  SLACK OFF WT 142,000  ROT WT 162,000  SLIDES 35' IN 90 MIN 30.6 % OF FOOTAGE  DRILLED,25 %OF HRS DRILLED  NO FLUID LOST  PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER  MUD WT 8.4 VIS 27  NOV-D WATER  SWACO OFF LINE |
|                            | 6:00 - 14:00        | 8.00          | DRLPRV     | 02         | В           | P         |                  | DRILL /SLIDE / SURVEY/ F/ 7,275 TO ,7,814 = 539 @ 67.3FPH WOB 22,000-28,000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 120 PUMPS 130 SPM= 550 GPM PUMP PRESSURE ON/OFF BTM 2,330 /2,095 TORQUE ON/OFF BTM 17,000/ 15,000 PICK UP WT 211,000 SLACK OFF WT 138,000 ROT WT 168,000 SLIDES 31' IN 95 MIN 19.7 % OF FOOTAGE DRILLED,7.2 %OF HRS DRILLED NO FLUID LOST PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.5 VIS 27 NOV-D WATER SWACO OFF LINE                |
|                            | 14:00 - 14:30       | 0.50          | DRLPRV     | 07         | Α           | Р         |                  | DAILY RIG SERVICE   |

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<u> Sundry Number: 53183 API Well Number: 43047526070000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Project: UTAH-UINTAH Site: NBU 921-22B PAD Rig Name No: PROPETRO 11/11, H&P 298/298 **Event: DRILLING** End Date: 2/26/2013 Start Date: 8/2/2012 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 14:30 - 0:00 9.50 **DRLPRV** 02 Ρ В DRILL /SLIDE / SURVEY/ F/ 7,814 TO ,8,600 = 786 @ 82.7 FPH WOB 22,000-28,000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 113 PUMPS 120 SPM= 540 GPM PUMP PRESSURE ON/OFF BTM 2,330 /2,095 TORQUE ON/OFF BTM 18,000/ 14,000 PICK UP WT 224,000 SLACK OFF WT 153,000 ROT WT 181,000 **NOSLIDES** NO FLUID LOST PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.7 VIS 27 **NOV-D WATER** SWACO OFF LINE 2/23/2013 0:00 - 6:00 6.00 DRLPRV DRILL /SLIDE / SURVEY/ F/ 8,600 TO ,9,150 = 560 @ 93.3 FPH WOB 22,000-28,000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 113 PUMPS 130 SPM= 550 GPM PUMP PRESSURE ON/OFF BTM 2,350 /2,100 TORQUE ON/OFF BTM 19,000/ 16,000 PICK UP WT 173,000 SLACK OFF WT 142,000 ROT WT 162,000 NO SLIDES NO FLUID LOST PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.6 VIS 27 **NOV-D WATER** SWACO OFF LINE 6:00 - 12:30 6.50 **DRLPRV** 02 В DRILL / SURVEY/ F/ 9,150 TO ,9,540 = 390 @ 60 **FPH** WOB 22.000-28.000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 113 PUMPS 110 SPM=495 GPM PUMP PRESSURE ON/OFF BTM 2,015 /1,750 TORQUE ON/OFF BTM 20,000/ 19,000 PICK UP WT 235,000 SLACK OFF WT 160,000 ROT WT 122,000 NO SLIDES NO FLUID LOST PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.7 VIS 27 10-15' FLARE **NOV-D WATER** SWACO OFF LINE 12:30 - 13:00 0.50 **DRLPRV** Ρ DAILY RIG SERVICE

5/16/2013 12:19:40PM 7

<u> Sundry Number: 53183 API Well Number: 43047526070000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Site: NBU 921-22B PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 11/11, H&P 298/298 **Event: DRILLING** End Date: 2/26/2013 Start Date: 8/2/2012 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 13:00 - 0:00 11.00 **DRLPRV** 02 Ρ В DRILL / SURVEY/ F/ 9,540 TO ,9,540 = 390 @ 60 **FPH** WOB 22.000-28.000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 113 PUMPS 110 SPM=495 GPM PUMP PRESSURE ON/OFF BTM 2,015 /1,750 TORQUE ON/OFF BTM 20,000/ 19,000 PICK UP WT 235,000 SLACK OFF WT 160,000 ROT WT 122,000 NO SLIDES NO FLUID LOST PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER MUD WT 8.7 VIS 27 10-15' FLARE **NOV-D WATER** SWACO OFF LINE 2/24/2013 0:00 - 6:00 6.00 **DRLPRV** 02 DRILL SURVEY F/ 10.058 TO ,10,300 TD= 242 @ 40 FPH WOB 22,000-29,000 TOP DRIVE RPM 60-75 MUD MOTOR RPM 113 PUMPS 120 SPM= 540 GPM PUMP PRESSURE ON/OFF BTM 2,490 /2,085 TORQUE ON/OFF BTM 16,000/ 12,000 PICK UP WT 275,000 **SLACK OFF WT 180,000** ROT WT 205,000 NO SLIDES 50 BBL FLUID LOSS PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% CAL CARB & ANCO FIBER DISPLACE HOLE W/ 10.7 MUD @ 10,200 MUD WT 10.7 VIS 34 **NOV-0FF LINE** SWACO OFF LINE 6:00 - 8:00 2.00 **DRLPRV** 05 В Ρ CIRC & COND MUD FOR TRIP ,RAISE MUD WT 8:00 - 11:00 Р 3.00 **DRLPRV** Ε 06 WIPER TRIP BACK REAM OUT 15 STANDS TO 8,884', TIH WASH F/ 9,619 TO BTM 11:00 - 12:30 1.50 **DRLPRV** В Ρ CCH, RAISE MUD TO 11.4 12:30 - 0:00 11.50 **DRLPRV** 06 D Р -BACK REAM OUT 20 STANDS, 10,300 TO 8,450 ,STRAIGHT PULL 3 STDS , PUMP SLUG, TOH LAYING DOWN DRILL PIPE FROM 8,450-2,100,, (TIGHT CONNECTIONS ON DRILL PIPE), WORK THRU TIGHT SPOTS @ 5,194-5,150-5,094 0:00 - 10:30 2/25/2013 10.50 **DRLPRV** 06 D Ρ LAY DOWN DRILL PIPE TO 2,100' RIH W/ 15 STDS TO 3,500'( PIPE HARD TO BREAK OUT, (TIGHT CONNECTIONS) RUN REST OF DP OUT OF DERRICK 15 STANDS. LDDS & BHA 10:30 - 11:30 1.00 **CSGPRO** Ρ 14 В PULL WEAR BUSHING / X/O DRILLING BAILS TO CASING BAILS 11:30 - 12:00 0.50 **CSGPRO** 07 Ρ DAILY RIG SERVICE Α

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<u> Sundry Number: 53183 API Well Number: 43047526070000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Project: UTAH-UINTAH Site: NBU 921-22B PAD Rig Name No: PROPETRO 11/11, H&P 298/298 **Event: DRILLING** End Date: 2/26/2013 Start Date: 8/2/2012 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 12:00 - 13:00 1.00 **CSGPRO** Ρ CTJSA RIG UP FRANKS CASING EQUIPMENT 12 Α 13:00 - 23:30 Р 10.50 С **CSGPRO** 12 MAKE UP FLOAT EQUIP, RUN 130 JTS OF 41/2,11.6#,LTC CASING (5,759',1 CEMENT BASKET,1 DV TOOL 1,CROSSOVER, ,1CEMENT BASKET TORQUE TURN DQX, RUN 103 JTS (4,522')/ P-110 11.6# DQX 4.5 CASING + RELATED TOOLS / BREAKING CIRCULATION @ SELECTED INTERVALS /WASH CASING DOWN@ 9,453-,9,489/ LANDING CASING MANDREL IN BOWL W/ 100,000,@10,290 FOR CIRC & CEMENTING / SHOE @ 10,290 / FC @ 10,269 / MV MKR @ 8,054/ DV TOOL @ 4,523' / X/0 @ 4,502 23:30 - 0:00 Ρ 0.50 **CSGPRO** 05 D CIRCULATE CASING / RIG DOWN FRANKS CASING EQUIP / CTJSA W/BJ 2/26/2013 0:00 - 1:30 1.50 **CSGPRO** 05 D Ρ CIRC CASING, CTJSA W/ BJ 1:30 - 3:30 2 00 **CSGPRO** Ε 12 RIG UP BJ CEMENTERS / PRESSURE TEST TO 5,000 PSI / PUMP 1ST STAGE OF CEMENT / 25 BBLS WATER SPACER /PUMP TAIL CEMENT 1,200 SKS -14.3 PPG - 1.32 YIELD / (282 BBL) / DROP PLUG, DISPLACE,W/ 100 BBLS WATER ,60 BBLS 11.4 PPG MUD / PLUG DOWN @ 03:22 HRS LIFT PRESSURE @2.089 BUMP PRESS @ 2,690 / FLOATS OK / 1.5 BBL MUD BACK TO INVENTORY 3:30 - 7:30 4.00 **CSGPRO** 13 PRESSURED UP TO 4.600 PSI OPEN DV TOOL / CIRCULATE 20 BBLS MUD THRU DV TOOLW/BJ TURN OVER TO RIG PUMP /CIRC WHILE WAIT ON CEMENT NO TAIL CMT TO PIT 7:30 - 9:30 2.00 **CSGPRO** 12 Ε Ρ CEMENT 2ND STAGE PUMP 25 BBLS WATER SPACER,550 SACKS LEAD @ 12.5 PPG / 2.01 YIELD (196 BBLS) TAIL 50 SACKS (10 BBLS)@ 15.8 PPG /1.16 YIELD DROP PLUG DISPLACE W/ 70.3 BBLS WATER,PLUG DOWN @ 08;45 HRS,LIFT PRESSURE @ 958 PSI / BUMP PRESS @ 2527, FLOATS HELD W/ 1. BBLS RETURNED TO INVENTORY / TRACE LEAD CEMENT TO PIT / RIG DOWN BJ

5/16/2013 12:19:40PM 9

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9:30 - 10:00

10:00 - 11:00

11:00 - 11:30

11:30 - 14:00

0.50

1.00

0.50

2.50

**CSGPRO** 

**CSGPRO** 

**CSGPRO** 

**RDMO** 

12

12

14

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FLUSH BOP STACK / BLOW DOWN LINES

CHANGE OUT CASING BAILS

LANDING JT

14:00 HRS 2/26/2013

BACK OUT LANDING JT / SET PACK OFF L/D

CT JSA NIPPLE DOWN BOPE /FOR RIG MOVE / CLEAN PITS/ RELEASE RIG TO NBU 921-22F4BS @ **US ROCKIES REGION** 

## General

## **Customer Information** <del>[</del>:

| Company        | US ROCKIES REGION |
|----------------|-------------------|
| Representative |                   |
| Address        |                   |

# Well/Wellbore Information 1.2

| Well         | NBU 921-22A1S (ORANGE)                           | Wellbore No.  | НО                                       |
|--------------|--|---------------|--|
| Well Name    | NBU 921-22A1S                                    | Wellbore Name | NBU 921-22A1S                            |
| Report No.   | 1  | Report Date   | 4/15/2013                                |
| Project      | UTAH-UINTAH                                      | Site          | NBU 921-22B PAD                          |
| Rig Name/No. |  | Event         | COMPLETION                               |
| Start Date   | 3/6/2013   | End Date      | 5/1/2013                                 |
| Spud Date    | 8/28/2012  | Active Datum  | RKB @4,842.00usft (above Mean Sea Level) |
| UWI          | NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 |               |  |

## General <del>.</del>.

| Contractor          | Job Method      | Supervisor |  |
|---------------------|-----------------|------------|--|
| Perforated Assembly | Conveyed Method |            |  |
|                     |                 |            |  |

Summary

1.5

## Initial Conditions 1.4

| Fluid Type           |         | Fluid Density      | Gross Interval   | 7,163.0 (usft)-10,047.0 (us           | 4/15/2013 12:00AM |
|----------------------|---------|--------------------|------------------|---------------------------------------|-------------------|
| Surface Press        |         | Estimate Res Press | No. of Intervals | 56 End Date/Time                      | 4/15/2013 12:00AM |
| TVD Fluid Top        |         | Fluid Head         | Total Shots      | 199 Net Perforation Interval          | 62.00 (usft)      |
| Hydrostatic Press    |         | Press Difference   | Avg Shot Density | 3.21 (shot/ft) Final Surface Pressure |                   |
| Balance Cond NEUTRAL | NEUTRAL |                    |                  | Final Press Date                      |                   |

# Intervals

## Perforated Interval 2.1

May 16, 2013 at 12:22 pm

| Date   | Formation/        | ©CL@  | CCL-T  | MD Top  | MD Base                | Shot      | Misfires/ | Diamete    | Carr Type /Stage No | Carr  | Phasing  | Phasing Charge Desc / Charge | Charge  | Reason          | Misrun |
|--------|-------------------|-------|--------|---------|------------------------|-----------|-----------|------------|---------------------|-------|----------|------------------------------|---------|-----------------|--------|
|        | Reservoir         | (nst) | ဟ      | (nstt)  | (usft) S (usft) (usft) | Density   | Add. Shot | <u>.</u>   |                     | Size  | <b>①</b> | Manufacturer                 | Weight  |                 |        |
|        |                   |       | (nsft) |         |                        | (shot/ft) |           | (in)       |                     | (in)  |          |                              | (gram)  |                 |        |
| /2013  | /15/2013 WASATCH/ |       |        | 7.163.0 | 7,163.0 7,164.0        | 3.00      |           | 0.360 EXP/ | EXP/                | 3.375 | 120.00   |                              | 23.00 F | 23.00 PRODUCTIO |        |
| 2:00AM |                   |       |        |         |                        |           |           |            |                     |       |          |                              | _       | _               |        |

OpenWells

2.1 Perforated Interval (Continued)

| Misrun                              |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                      |                      |                      |                      |
|-------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|----------------------|----------------------|----------------------|
| Reason                              | 23.00 PRODUCTIO<br>N   | 23.00 PRODUCTIO<br>N | 23.00 PRODUCTIO<br>N | 23.00 PRODUCTIO<br>N | 23.00 PRODUCTIO<br>N |
| Charge<br>Weight<br>(gram)          | 23.00 F                | 23.00 F              | 23.00 F              | 23.00 F              | 23.00 F              |
| Charge Desc /Charge<br>Manufacturer |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                      |                      |                      |                      |
| Phasing<br>(°)                      | 120.00                 | 120.00                 | 120.00                 | 120.00                 | 120.00                 | 90.00                  | 90.00                  | 00.06                  | 90.00                  | 120.00                 | 120.00                 | 120.00                 | 120.00                 | 120.00                 | 90.00                  | 90.00                  | 90.00                  | 90.00                | 90.00                | 120.00               | 90.00                |
| Carr<br>Size<br>(in)                | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                  | 3.375                | 3.375                | 3.375                | 3.375                |
| ete Carr Type /Stage No             | 0.360 EXP/             | 0.360 EXP/           | 0.360 EXP/           | 0.360 EXP/           | 0.360 EXP/           |
| Misfires/ Diamete Add. Shot r (in)  | Ö.                     | 0                      | Ö                      | О.                     | Ö                      | Ö                      | Ö                      | Ö                      | Ö                      | Ö                      | Ö                      | Ö                      | Ö                      | Ö                      | 0                      | Ö                      | Ö                      | Ö                    | Ö                    | Ö                    | Ö                    |
| Shot<br>Density<br>(shot/ft)        | 3.00                   | 3.00                   | 3.00                   | 3.00                   | 3.00                   | 4.00                   | 4.00                   | 4.00                   | 4.00                   | 3.00                   | 3.00                   | 3.00                   | 3.00                   | 3.00                   | 4.00                   | 4.00                   | 4.00                   | 4.00                 | 4.00                 | 3.00                 | 4.00                 |
| MD Base usft)                       | 7,179.0                | 7,260.0                | 7,285.0                | 7,365.0                | 7,384.0                | 7,799.0                | 7,812.0                | 7,827.0                | 7,895.0                | 8,231.0                | 8,254.0                | 8,351.0                | 8,372.0                | 8,390.0                | 8,404.0                | 8,539.0                | 8,557.0                | 8,565.0              | 8,582.0              | 8,642.0              | 8,966.0              |
| MD Top (usft)                       | 7,178.0                | 7,259.0                | 7,284.0                | 7,364.0                | 7,383.0                | 7,798.0                | 7,811.0                | 7,826.0                | 7,893.0                | 8,230.0                | 8,253.0                | 8,350.0                | 8,371.0                | 8,389.0                | 8,402.0                | 8,538.0                | 8,556.0                | 8,564.0              | 8,581.0              | 8,640.0              | 8,965.0              |
| CCL-T<br>S<br>(usft)                |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                      |                      |                      |                      |
| (JJSN)                              |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                      |                      |                      |                      |
| Formation/<br>Reservoir             | WASATCH/               | MESAVERDE/             | MESAVERDE/           | MESAVERDE/           | MESAVERDE/           | MESAVERDE/           |
| Date                                | 4/15/2013 V<br>12:00AM | 4/15/2013 N<br>12:00AM | 60                   | 4/15/2013 N          | 4/15/2013 N          | m                    |

May 16, 2013 at 12:22 pm

OpenWells

2.1 Perforated Interval (Continued)

| 4/15/2013              | Keservoli  | (JJSn) | S<br>(usft) |         |         |      | Add. Shot | r<br>(in)  |      | Size<br>(in) | 0      | Manufacturer | Weight<br>(gram) |                      |  |
|------------------------|------------|--------|-------------|---------|---------|------|-----------|------------|------|--------------|--------|--------------|------------------|----------------------|--|
| 12:00AM                | MESAVERDE/ |        |             | 8,993.0 | 8,994.0 | 4.00 |           | 0.360      | EXP/ | 3.375        | 90.00  |              | 23.00 P<br>N     | 23.00 PRODUCTIO      |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 0.000,6 | 9,002.0 | 3.00 |           | 0.360 E    | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 P            | MESAVERDE/ |        |             | 9,026.0 | 9,028.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,058.0 | 9,059.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I<br>12:00AM | MESAVERDE/ |        |             | 9,079.0 | 0.080,6 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 12:00AM      | MESAVERDE/ |        |             | 9,139.0 | 9,140.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,150.0 | 9,151.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 1<br>12:00AM | MESAVERDE/ |        |             | 9,183.0 | 9,184.0 | 3.00 |           | 0.360 EXP  | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,196.0 | 9,197.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,210.0 | 9,211.0 | 3.00 |           | 0.360 E    | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,224.0 | 9,225.0 | 3.00 |           | 0.360 EXP  | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 N<br>12:00AM | MESAVERDE/ |        |             | 9,262.0 | 9,263.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,274.0 | 9,275.0 | 3.00 |           | 0.360 E    | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,343.0 | 9,344.0 | 3.00 |           | 0.360 E    | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,357.0 | 9,358.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO      |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,374.0 | 9,375.0 | 3.00 |           | 0.360 E    | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 I            | MESAVERDE/ |        |             | 9,454.0 | 9,455.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
|                        | MESAVERDE/ |        |             | 9,466.0 | 9,467.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P          | 23.00 PRODUCTIO<br>N |  |
|                        | MESAVERDE/ |        |             | 9,494.0 | 9,495.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P<br>N     | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 1<br>12:00AM | MESAVERDE/ |        |             | 9,556.0 | 9,557.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P          | 23.00 PRODUCTIO<br>N |  |
| 4/15/2013 1<br>12:00AM | MESAVERDE/ |        |             | 9,572.0 | 9,573.0 | 3.00 |           | 0.360 EXP/ | EXP/ | 3.375        | 120.00 |              | 23.00 P          | 23.00 PRODUCTIO<br>N |  |

May 16, 2013 at 12:22 pm

OpenWells

Perforated Interval (Continued)

| Misrun                              |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Reason                              | 23.00 PRODUCTIO<br>N |
| Charge<br>Weight<br>(gram)          | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                | 23.00                |
| Charge Desc /Charge<br>Manufacturer |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Phasing (*)                         | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               | 120.00               |
| Carr<br>Size<br>(in)                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                | 3.375                |
| Carr Type /Stage No                 | EXP/                 |
| Diamete<br>r<br>(in)                | 0.360 EXP/           | 0.360                | 0.360 EXP/           | 0.360                | 0.360 EXP/           |
| Misfires/<br>Add. Shot              |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Shot<br>Density<br>(shot/ft)        |                      | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 | 3.00                 |
| MD Base<br>(usft)                   | 9,595.0              | 9,650.0              | 9,676.0              | 9,710.0              | 9,742.0              | 9,779.0              | 9,817.0              | 9,866.0              | 9,912.0              | 10,005.0             | 10,016.0             | 10,035.0             | 10,047.0             |
| MD Top<br>(usft)                    | 9,594.0              | 9,649.0              | 9,675.0              | 9,709.0              | 9,741.0              | 9,778.0              | 9,816.0              | 9,865.0              | 9,910.0              | 10,004.0             | 10,015.0             | 10,034.0             | 10,046.0             |
| CCL-T<br>S<br>(usff)                |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| (JJSn)                              |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Formation/<br>Reservoir             | MESAVERDE/           |
| Date                                | 4/15/2013<br>12:00AM |

Plots

May 16, 2013 at 12:22 pm

OpenWells

|                 |                              |               |            | U         | S ROC       | KIES RE    | EGION            |   |
|-----------------|------------------------------|---------------|------------|-----------|-------------|------------|------------------|---|
|                 |                              |               |            |           |             |            | ry Report        |   |
| Well: NBU 921-  | 22A1S (ORANGE)               |               |            |           |             |            | Spud Date: 8/2   | 28/2012   |
| Project: UTAH-I | , ,                          |               | Site: NBL  | J 921-22B | B PAD       |            |                  | Rig Name No: GWS 1/1  |
| Event: COMPLE   |                              |               | Start Date |           |             |            |                  | End Date: 5/1/2013  |
| Active Datum: F | RKB @4,842.00usft (a         | bove Mean S   | - 1        | 1         |             | /S/21/E/22 | 2/0/0/26/PM/N/94 |   |
| Level)  Date    | Time<br>Start-End            | Duration (hr) | Phase      | Code      | Sub<br>Code | P/U        | MD From (usft)   | Operation   |
| 3/6/2013        | 10:00 - 11:00                | 1.00          | SUBSPR     | 52        | E           | Р          | (usity           | REMOVE POP-OFF ASSEMBLY. FILL SUFACE CSG W/ 2 BBLS BRINE. ATTM T/ EST INJT RT. PSI UP T/ 1500 PSI. LOST 200 PSI. BUMP BACK UP T/ 1500 PSI. HELD. BLEED OFF PSI. REINSTALL POP-OFF ASSEMBLY.   |
| 3/7/2013        | 8:00 - 10:00                 | 2.00          | SUBSPR     | 52        | E           | Р          |                  | BLEED OFF POP-OFF ASSEMBLY. (200 PSI) RD POP-OFF ASSEMBLY. RIG PUMP T/ SURFACE CSG VALVE. PUMP 2 BBLS. PRESSURE UP T/ 1500 PSI. BLED OFF SLOW. COULD NOT GET INJT RT. BLEED SURFACE CSG OFF. RU POP-OFF ASSEMPBLY.  |
|                 | 16:00 - 17:30                | 1.50          | SUBSPR     | 30        | Α           | Р          |                  | SLIDE RIG OVER. RU RIG. RU TBGING EQUIP. NDWH. NUBOP. SWIFN.  |
| 3/8/2013        | 6:45 - 7:00                  | 0.25          |            |           |             |            |                  |   |
|                 | 7:00 - 10:00                 | 3.00          | SUBSPR     | 31        | I           | Р          |                  | OPEN WELL 0 PSI. PU 3 7/8 MILL + BIT SUB. RIH W/ TBG. TAG CMT @ 4445' = 77' OF CMT.CONT RIH W/ TBG. TAG CMT @ 10,240' = 27' CMT. PU DRL EQUIP. BRK REV CIRC. CO CMT T/ FC @ 10,267', CIRC WELL CLEAN. RACK OUT DRL EQUIP. POOH W/ TBG T/ 10,138'. SWIFWE. |
|                 | 10:00 - 11:00                | 1.00          | SUBSPR     | 44        | Α           | Р          |                  | RU DRL EQUIP. BRK REV CIRC. DRL OUT 77' CMT & DV TOOL. CIRC WELL CLEAN. STD BCK DRL EQUIP.  |
|                 | 11:00 - 15:00                | 4.00          | SUBSPR     | 31        | ı           | Р          |                  | CONT RIH W/ TBG. TAG CMT @ 10,240' = 27' CMT.   |
| 2/44/2042       | 15:00 - 17:30<br>7:00 - 7:15 | 2.50          | SUBSPR     | 44        | A           | Р          |                  | PU DRL EQUIP. BRK REV CIRC. DRL OUT 27' CMT T/FC @ 10,267'. CIRC WELL CLEAN. SHUT KELLY VALVE. PSI TEST CSG & DV TOOL T/3500 PSI W/RIG PUMP. GOOD TEST. BLEED OFF PSI. RD DRL EQUIP. POOH W/4 JTS. EOT @ 10,138'. SWIFWE.                                 |
| 3/11/2013       | 7:15 - 18:00                 | 0.25          | SUBSPR     | 48        |             | P          |                  | JSA= FALL HAZARDS   |
|                 | 7.10 16.00                   | 10.75         | SUBSPR     | 30        |             | r          |                  | CONTINUE TO POOH W/ MILL LAYING DOWN TUB LD MILL RD FLOOR & TUBING EQUIP ND BOPS NU WELLHEAD RD & MOVE RIG TO 921-22B1CS RU RIG PREP TO PU TUBING SDFN  |
| 3/20/2013       | -                            |               |            |           |             |            |                  |   |
| 3/22/2013       | 12:00 - 13:00                | 1.00          | SUBSPR     | 33        | С           | Р          |                  | FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 57 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.  PRESSURE TEST 8 5/8 X 4 1/2 TO 500 PSI HELD FOR 5 MIN                  |
|                 |                              |               |            |           |             |            |                  | LOST -110 PSI,BLED PSI OFF, REINSTALLED POP<br>OFF SWIFN  |

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| Sundry          | <u>Numb</u> | er:         | 53183         | APT We     | ,11 V.     | Iumbe       | r: 4       | 3047526          | 070000   |
|-----------------|-------------|-------------|---------------|------------|------------|-------------|------------|------------------|--|
|                 |             |             |               |            | U          | S ROC       | KIES RE    | EGION            |  |
|                 |             |             |               |            | Opera      | tion S      | umma       | ry Report        |  |
| Well: NBU 921-2 | 22A1S (OR   | ANGE)       |               |            |            |             |            | Spud Date: 8/2   | 28/2012  |
| Project: UTAH-L | JINTAH      |             |               | Site: NBU  | 921-22E    | PAD         |            |                  | Rig Name No: GWS 1/1   |
| Event: COMPLE   | ETION       |             |               | Start Date | e: 3/6/201 | 3           |            |                  | End Date: 5/1/2013   |
| Active Datum: R | RKB @4,842  | .00usft (al | oove Mean S   | ea         | UWI: N\    | N/NE/0/9    | /S/21/E/22 | 2/0/0/26/PM/N/94 | 43/E/0/1835/0/0  |
| _evel)          |             |             | l             | Dhasa      | Cada       |             | D/LI       |                  | Operation  |
| Date            |             | me<br>t-End | Duration (hr) | Phase      | Code       | Sub<br>Code | P/U        | MD From (usft)   | Operation  |
| 4/9/2013        | 12:30 -     | 13:00       | 0.50          | SUBSPR     | 33         | С           | Р          |                  | PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 43 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.   |
| 4/12/2013       | 7:00 -      | 7:15        | 0.25          | SUBSPR     | 48         |             | Р          |                  | HSM, RIGGING UP  |
|                 | 7:15 -      | 7:15        | 0.00          | SUBSPR     | 37         | В           | Р          |                  | MIRU CASED HOLE SOLUTIONS, 1ST SHOOT MESA<br>VERDE STG #1 AS DESIGN  |
| 4/15/2013       | 7:00 -      | 7:15        | 0.25          | FRAC       | 48         |             | Р          |                  | HSM, WORKING AROUND TRACER   |
| 4/16/2013       |             | 6:45        | 0.25          | FRAC       | 48         |             | Р          |                  | HSM, OPENING CLOSING VALVES  |
|                 | 6:45 -      | 17:30       | 10.75         | FRAC       | 36         | В           | Р          |                  | REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUMES, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELLS, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT. ALL PLUGS ARE HALIBURTON 8K CBPS |
|                 |             |             |               |            |            |             |            |                  | FRAC STG #1] WHP=1,629#, BRK DN<br>PERFS=4,237#, @=5 BPM, INTIAL ISIP=2,793#,<br>FG=.72, FINAL ISIP=2,947#, FG=.74,  |
|                 |             |             |               |            |            |             |            |                  | SET PLUG & PERFORATE STG #2  |
|                 |             |             |               |            |            |             |            |                  | FRAC STG #2] WHP=750#, BRK DN PERFS=4,570#,<br>@=5.1 BPM, INTIAL ISIP=2,753#, FG=.72, FINAL<br>ISIP=3,052#, FG=.75,  |
|                 |             |             |               |            |            |             |            |                  | SET PLUG & PERFORATE STG #3  |
|                 |             |             |               |            |            |             |            |                  | FRAC STG #3] WHP=2,446#, BRK DN PERFS=4,103#, @=5 BPM, INTIAL ISIP=2,637#, FG=.72, FINAL ISIP=2,934#, FG=.75, SET PLUG & PERFORATE STG #4  |
| 4/17/2013       | 14:00 -     | 17:00       | 3.00          | FRAC       | 36         | В           | Р          |                  | SWIFN. DID NOT GET TO WELL DUE TO PROBLEMS W/  |
|                 |             |             |               |            |            |             |            |                  | FRAC EQUIP   |

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Р

HSM, PINCH POINTS

4/18/2013

6:15 - 6:30

0.25

FRAC

48

<u> Sundry Number: 53183 API Well Number: 43047526070000</u> **US ROCKIES REGION Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Project: UTAH-UINTAH Site: NBU 921-22B PAD Rig Name No: GWS 1/1 **Event: COMPLETION** End Date: 5/1/2013 Start Date: 3/6/2013 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6:30 - 17:30 11.00 **FRAC** 36 Ρ В FRAC STG #4] WHP=2,161#, BRK DN PERFS=3,312#, @=4.7 BPM, INTIAL ISIP=2,494#, FG=.71, FINAL ISIP=3,109#, FG=.78, SET PLUG PERFORATE STG #5 FRAC STG #5] WHP=2,494#, BRK DN PERFS=3,786#, @=4.6 BPM, INTIAL ISIP=2,747#, FG=.74, FINAL ISIP=2,700#, FG=.74, SET PLUG AND PERFORATE STG #6 FRAC STG #6] WHP=1,266#, BRK DN PERFS=2,922#, @=4.8 BPM, INTIAL ISIP=1,834#, FG=.65, FINAL ISIP=2,724#, FG=.76, SET PLUG AND PERFORATE STG #7 FRAC STG #7] WHP=860#, BRK DN PERFS=2,222#, @=4.8 BPM, INTIAL ISIP=1,423#, FG=.61, FINAL ISIP=2,434#, FG=.73, **SWIFN** 4/19/2013 6:45 - 7:00 0.25 **FRAC** HSM, RIGGING DOWN 7:00 - 15:00 8.00 **FRAC** В 36 SET PLUUG AND PERFORATE STG #8 FRAC STG #8] WHP=420#, BRK DN PERFS=4,206#, @=5.1 BPM, INTIAL ISIP=2,615#, FG=.77, FINAL ISIP=3,035#, FG=.83, SET PLUG AND PERFORATE STG #9 FRAC STG #9] WHP=446#, BRK DN PERFS=1,933#, @=5 BPM, INTIAL ISIP=976#, FG=.57, FINAL ISIP=1,868#, FG=.70, SET TOP KILL TOTAL BBI S=8 683 TOTAL SAND=185 288# 7:00 - 7:15 4/30/2013 0.25 DRLOUT 48 HSM, SLIPS, TRIPS & FALLS, PU TBG 7:15 - 16:00 8.75 DRLOUT Р 5 OF 6, RD OFF NBU 921-22B1CS, MIRU, SPOT EQUIP, SPOT TBG TRAILER INSTAL HAND RAILS, PU 3 7/8" BIT, POBS, 1.875" XN S/N, TALLY & PU TBG TO KILL PLUG, P/T BOP TO 3,000 PSI GOOD, RU P/S SURFACE CSG VALVE OPEN & LOCKED, START D/O PLUGS C/O 10' SAND, TAG 1ST PLUG @ 7,113', KICK 0 PSI, RIH, CSG PRESS 0 PSI. C/O 30' SAND, TAG 2ND PLUG @ 7,414', KICK 0 PSI, RIH, CSG PRESS 0 PSI. LET WELL CLEAN UP, SWI, SDFN

5/16/2013 12:22:59PM 3

<u> Sundry Number: 53183 API Well Number: 43047526070000</u> US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22A1S (ORANGE) Spud Date: 8/28/2012 Site: NBU 921-22B PAD Project: UTAH-UINTAH Rig Name No: GWS 1/1 **Event: COMPLETION** End Date: 5/1/2013 Start Date: 3/6/2013 UWI: NW/NE/0/9/S/21/E/22/0/0/26/PM/N/943/E/0/1835/0/0 Active Datum: RKB @4,842.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End Code (usft) (hr) 5/1/2013 7:00 - 7:15 0.25 DRLOUT 48 Ρ SAFETY MEETING JSA DRILL OUT PLUGS LAND 7:15 - 14:00 6.75 DRLOUT С Ρ 44 SICP 400 PSI, OPEN WELL, SURFACE CSG VALVE OPEN & LOCKED, D/O REMAINING 7 PLUGS. C/O 60' SAND, TAG 3RD PLUG @ 7,925', KICK 400 PSI, RIH, CSG PRESS 100 PSI. C/O 30' SAND, TAG 4TH PLUG @ 8,434', KICK 300 PSI, RIH, CSG PRESS 300 PSI. C/O 30' SAND, TAG 5TH PLUG @ 8,672', KICK 500 PSI, RIH, CSG PRESS 400 PSI. C/O 10' SAND, TAG 6TH PLUG @ 9,038', KICK 800 PSI, RIH, CSG PRESS 400 PSI. C/O 10' SAND, TAG 7TH PLUG @ 9,235', KICK 900 PSI, RIH, CSG PRESS 500 PSI. C/O 30' SAND, TAG 8TH PLUG @ 9,525', KICK 900 PSI, RIH, CSG PRESS 600 PSI. C/O 50' SAND, TAG 9TH PLUG @ 9,789',KICK 900 PSI, RIH, CSG PRESS 700 PSI. PBTD @ 10,267', BTM PERF @ 10,047', RIH TAGGED @ 10,240', 193' PAST BTM PERF W/ 323 JTS 2 3/8" TBG, LD 23 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 300 JTS 2 3/8" L-80 & J-55, EOT 9,535.81'. RD P/S, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL & SHEAR OFF BIT, P/T LINE FROM WH TO HAL 9000 TO 3,000 PSI, NO VISIBLE LEAKS, LET BIT FALL FOR 20 MIN. TURN OVER TO FLOW BACK CREW & SALES, RD TO MOVE TO LAST WELL ON PAD. KB= 26' 4 1/16" CAMERON HANGER= .83' **TBG** DELIVERED 181 JTS L-80 150 JTS 2 3/8" L-80= 4,765.09' TBG DELIVERED 150 JTS J-55 1 - 6' PUP JT L-80= 6.15' TOTAL TBG= 331 JTS L-80 & J-55 150 JTS 2 3/8" J-55 = 4,735.54' TBG USED 300 JTS POBS= 2.20' TBG RETURNED 31 JTS L-80 EOT @ 9535.81' TWTR= 8,683 BBLS TWR= 2,500 BBLS TWLTR= 6,183 BBLS

5/16/2013 12:22:59PM 4

| Sundry                     | Number: '            | 53183            | APT We     | 11 N       | Iumbe       | r: 4      | 30475260          | 70000  |
|----------------------------|----------------------|------------------|------------|------------|-------------|-----------|-------------------|--|
|                            |                      |                  |            | U          | S ROC       | KIES RI   | EGION             |  |
|                            |                      |                  | 1          | Opera      | tion S      | Summa     | ary Report        |  |
| Well: NBU 921-2            | 2A1S (ORANGE)        |                  |            |            |             |           | Spud Date: 8/28   | /2012  |
| Project: UTAH-U            | INTAH                |                  | Site: NBU  | 921-22E    | PAD         |           |                   | Rig Name No: GWS 1/1   |
| Event: COMPLE              | TION                 |                  | Start Date | e: 3/6/201 | 3           |           |                   | End Date: 5/1/2013   |
| Active Datum: RI<br>Level) | KB @4,842.00usft (ab | oove Mean S      | ea         | UWI: N\    | N/NE/0/9    | /S/21/E/2 | 2/0/0/26/PM/N/943 | E/E/0/1835/0/0   |
| Date                       | Time<br>Start-End    | Duration<br>(hr) | Phase      | Code       | Sub<br>Code | P/U       | MD From (usft)    | Operation  |
|                            | 14:00 - 14:00        | 0.00             | DRLOUT     | 50         |             |           |                   | WELL TURNED TO SALES @ 1220 HR ON 5/1/2013.<br>1000 MCFD, 1560 BWPD, FCP 1800#, FTP 1600#,<br>20/64" CK. |

5/16/2013 12:22:59PM 5

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: UINTAH\_NBU 921-22B PAD Well: NBU 921-22A1S

Wellbore: Wellbore #1 Section: SW 1/4 NE 1/4 Sec.22-T9S-R21E

Northing 14538984.99

SHL: 943' FNL 1835' FEL Design: PLAN 1 Latitude: 40.026267 Longitude: -109.534293

+E/-W 0.00

+N/-S 0.00

GL: 4816.00

KB: 26' RKB+4816' GL @ 4842.00ft (H&P 298)

FORMATION TOP DETAILS

TVDPath MDPath 1572.66 1950.07 1556.00 1908.00 2484.22 5171.83 5779.37 8084.41 2404.00 4946.00 5546.00 7851.00 10060.00 10293.44

GREEN RIVER BIRDS NEST MAHOGANY MARKER
WASATCH
TOP OF CYLINDER
MESAVERDE



## Weatherford

WELL DETAILS: NBU 921-22A1S Ground Level: Easting 2050750.60 4816.00 Latittude 40.026267 Longitude -109.534293 Slot

CASING DETAILS MD Name 8 5/8" Size 2865.29 2973.09



Azimuths to True North Magnetic North: 10.90°

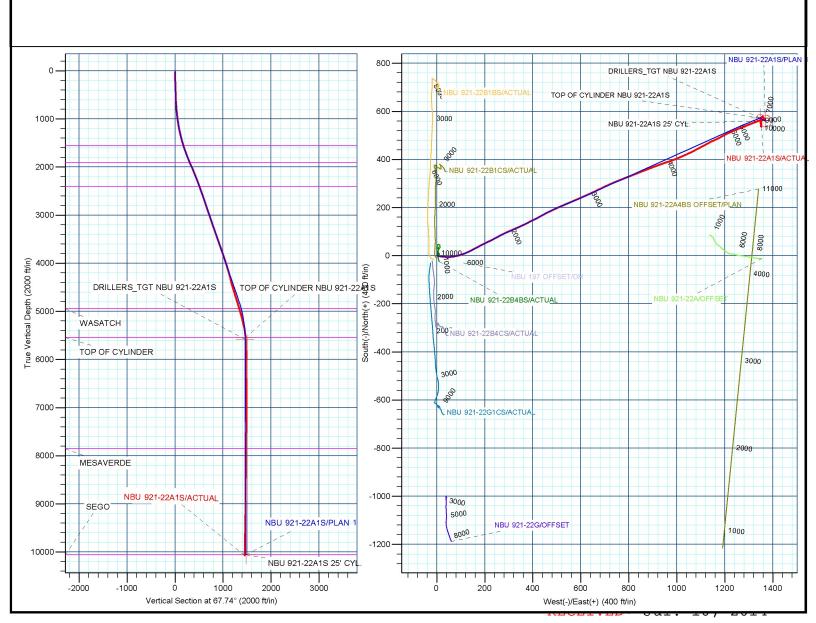
Magnetic Field Strength: 52189.0snT Dip Angle: 65.84° Date: 12/20/2012 Model: IGRF2010

#### DESIGN TARGET DETAILS

| Name                          | TVD      | +N/-S  | +E/-W   | Northing    | Easting    | Latitude  | Longitude   | Shape                  |
|-------------------------------|----------|--------|---------|-------------|------------|-----------|-------------|------------------------|
| TOP OF CYLINDER NBU 921-22A1S | 5546.00  | 572.30 | 1346.49 | 14539579.37 | 2052087.48 | 40.027838 | -109.529484 | Point                  |
| DRILLERS_TGT NBU 921-22A1S    | 5584.71  | 572.41 | 1346.77 | 14539579.49 | 2052087.76 | 40.027839 | -109.529483 | Circle (Radius: 15.00) |
| NBU 921-22A1S 25' CYL.        | 10060.00 | 560.19 | 1368.36 | 14539567.62 | 2052109.55 | 40.027805 | -109.529406 | Circle (Radius: 25.00) |

### **SECTION DETAILS**

| MD       | Inc   | Azi    | TVD      | +N/-S  | +E/-W   | Dleg | TFace  | VSect   |
|----------|-------|--------|----------|--------|---------|------|--------|---------|
| 2960.00  | 18.99 | 65.79  | 2852.91  | 247.31 | 616.11  | 0.00 | 0.00   | 663.88  |
| 5010.00  | 18.99 | 65.79  | 4791.34  | 520.87 | 1224.52 | 0.00 | 0.00   | 1330.57 |
| 5818.09  | 0.00  | 69.83  | 5584.71  | 572.41 | 1346.77 | 2.35 | 177.99 | 1463.24 |
| 5925.22  | 0.32  | 119.52 | 5691.84  | 572.26 | 1347.04 | 0.30 | 119.52 | 1463.43 |
| 10293.44 | 0.32  | 119.52 | 10060.00 | 560.19 | 1368.36 | 0.00 | 0.00   | 1478.58 |





## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 921-22B PAD NBU 921-22A1S

Wellbore #1

**Design: ACTUAL** 

## **Standard Survey Report**

25 February, 2013





### **Anadarko Petroleum Corp**

**TVD Reference:** 

MD Reference:

Survey Report



**Weatherford** 

Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: UINTAH\_NBU 921-22B PAD

Well: NBU 921-22A1S
Wellbore: Wellbore #1
Design: ACTUAL

Local Co-ordinate Reference:

Well NBU 921-22A1S 26' RKB+4816' GL @ 4842

26' RKB+4816' GL @ 4842.00ft (H&P 298) 26' RKB+4816' GL @ 4842.00ft (H&P 298)

North Reference: True

Survey Calculation Method: Minimum Curvature

edmp

Database:

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

System Datum: Mean Sea Level

Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: Zone 12N (114 W to 108 W)

**Map Zone:** Zone 12N (114 W to 108 W)

Site UINTAH\_NBU 921-22B PAD, SW 1/4 NE 1/4 Sec.22-T9S-R21E Northing: 14,538,954.35 usft Site Position: Latitude: 40.026184 From: Lat/Long Easting: 2,050,725.05 usft Longitude: -109.534386 0.00 ft 0.94° **Position Uncertainty:** Slot Radius: 13-3/16 " **Grid Convergence:** 

Well NBU 921-22A1S **Well Position** +N/-S 0.00 ft Northing: 14,538,985.00 usft Latitude: 40.026267 +E/-W 0.00 ft Easting: 2,050,750.59 usft Longitude: -109.534293 0.00 ft Ground Level: 4,816.00 ft **Position Uncertainty** Wellhead Elevation: ft

| Wellbore  | Wellbore #1 |             |                    |                  |                        |
|-----------|-------------|-------------|--------------------|------------------|------------------------|
| Magnetics | Model Name  | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF2010    | 12/20/2012  | 10.90              | 65.84            | 52,189                 |

ACTUAL Design Audit Notes: ACTUAL Version: 1.0 Phase: Tie On Depth: 22.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 22.00 0.00 0.00 68.13

| Survey Program     | <b>Date</b> 2/25/2013   |            |                                  |  |
|--------------------|---|------------|----------------------------------|--|
| From<br>(ft)       | To<br>(ft) Survey (Wellbore)  | Tool Name  | Description                      |  |
| 164.00<br>3,030.00 | 2,960.00 Survey #1 (Wellbore #1)<br>10,300.00 Survey #2 (Wellbore #1) | MWD<br>MWD | MWD - STANDARD<br>MWD - STANDARD |  |

| Survey                   |      |                   |                |                           |               |               |                             |                               |                              |                             |
|--------------------------|------|-------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|
| Measure<br>Depth<br>(ft) |      | nclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 2:                       | 2.00 | 0.00              | 0.00           | 22.00                     | 0.00          | 0.00          | 0.00                        | 0.00                          | 0.00                         | 0.00                        |
| 164                      | 4.00 | 0.76              | 64.73          | 164.00                    | 0.40          | 0.85          | 0.94                        | 0.54                          | 0.54                         | 0.00                        |
| 194                      | 4.00 | 0.77              | 79.76          | 193.99                    | 0.52          | 1.23          | 1.34                        | 0.67                          | 0.03                         | 50.10                       |
| 22                       | 1.00 | 1.06              | 84.95          | 220.99                    | 0.58          | 1.66          | 1.75                        | 1.12                          | 1.07                         | 19.22                       |
| 249                      | 9.00 | 1.24              | 98.68          | 248.98                    | 0.55          | 2.21          | 2.26                        | 1.17                          | 0.64                         | 49.04                       |
| 27                       | 7.00 | 1.54              | 106.51         | 276.98                    | 0.40          | 2.87          | 2.82                        | 1.27                          | 1.07                         | 27.96                       |
| 303                      | 3.00 | 1.94              | 105.75         | 302.96                    | 0.18          | 3.63          | 3.44                        | 1.54                          | 1.54                         | -2.92                       |
| 332                      | 2.00 | 2.12              | 112.39         | 331.95                    | -0.15         | 4.60          | 4.21                        | 1.02                          | 0.62                         | 22.90                       |
| 360                      | 0.00 | 2.30              | 108.51         | 359.92                    | -0.53         | 5.61          | 5.01                        | 0.84                          | 0.64                         | -13.86                      |
| 450                      | 0.00 | 2.73              | 104.37         | 449.84                    | -1.64         | 9.40          | 8.12                        | 0.52                          | 0.48                         | -4.60                       |



### **Anadarko Petroleum Corp**

Survey Report



**Weatherford**\*

US ROCKIES REGION PLANNING Company: Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: UINTAH NBU 921-22B PAD

Well: NBU 921-22A1S Wellbore: Wellbore #1

Local Co-ordinate Reference:

26' RKB+4816' GL @ 4842.00ft (H&P 298) TVD Reference: MD Reference: 26' RKB+4816' GL @ 4842.00ft (H&P 298) North Reference:

Well NBU 921-22A1S

**Survey Calculation Method:** Minimum Curvature

| Design: | A                         | ACTUAL             |                |                           | Database:          |               |                             | edmp                          |                              |                             |  |
|---------|---------------------------|--------------------|----------------|---------------------------|--------------------|---------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Survey  |                           |                    |                |                           |                    |               |                             |                               |                              |                             |  |
|         | Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft)      | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |  |
|         | 540.00                    | 3.64               | 99.49          | 539.70                    | -2.64              | 14.30         | 12.28                       | 1.05                          | 1.01                         | -5.42                       |  |
|         | 630.00                    |                    | 98.66          | 629.49                    | -3.60              | 20.32         | 17.52                       | 0.55                          | 0.54                         | -0.92                       |  |
|         | 720.00                    |                    | 98.31          | 719.23                    | -4.60              | 27.07         | 23.41                       | 0.49                          | 0.49                         | -0.39                       |  |
|         | 810.00                    |                    | 96.73          | 808.89                    | - <del>4</del> .60 | 34.79         | 30.20                       | 0.49                          | 0.49                         | -1.76                       |  |
|         | 900.00                    |                    | 90.02          | 898.41                    | -6.11              | 44.08         | 38.63                       | 1.50                          | 1.29                         | -7.46                       |  |
|         | 300.00                    | 0.32               | 30.02          | 030.41                    | -0.11              | 77.00         | 30.03                       | 1.50                          | 1.23                         | -7.40                       |  |
|         | 990.00                    | 7.76               | 85.95          | 987.71                    | -5.68              | 55.25         | 49.16                       | 1.49                          | 1.38                         | -4.52                       |  |
|         | 1,080.00                  | 9.17               | 79.41          | 1,076.73                  | -3.93              | 68.36         | 61.97                       | 1.89                          | 1.57                         | -7.27                       |  |
|         | 1,170.00                  | 10.82              | 77.87          | 1,165.36                  | -0.84              | 83.67         | 77.33                       | 1.86                          | 1.83                         | -1.71                       |  |
|         | 1,260.00                  | 12.21              | 73.22          | 1,253.55                  | 3.68               | 101.04        | 95.14                       | 1.86                          | 1.54                         | -5.17                       |  |
|         | 1,350.00                  | 13.63              | 67.55          | 1,341.27                  | 10.48              | 119.96        | 115.23                      | 2.11                          | 1.58                         | -6.30                       |  |
|         | 1,440.00                  | 14.77              | 62.54          | 1,428.52                  | 19.82              | 139.94        | 137.25                      | 1.86                          | 1.27                         | -5.57                       |  |
|         | 1,530.00                  |                    | 62.45          | 1,515.20                  | 31.00              | 161.41        | 161.34                      | 1.86                          | 1.86                         | -0.10                       |  |
|         | 1,620.00                  |                    | 63.57          | 1,600.99                  | 43.33              | 185.64        | 188.42                      | 2.57                          | 2.54                         | 1.24                        |  |
|         | 1,710.00                  |                    | 63.06          | 1,685.77                  | 56.89              | 212.63        | 218.52                      | 1.96                          | 1.96                         | -0.57                       |  |
|         | 1,800.00                  |                    | 62.00          | 1,769.50                  | 72.13              | 241.90        | 251.36                      | 2.31                          | 2.27                         | -1.18                       |  |
|         | 1,890.00                  | 22.69              | 63.77          | 1,852.58                  | 87.89              | 272.69        | 285.81                      | 0.78                          | 0.18                         | 1.97                        |  |
|         | 1,980.00                  | 22.69              | 66.75          | 1,935.62                  | 102.42             | 304.22        | 320.47                      | 1.28                          | 0.00                         | 3.31                        |  |
|         | 2,070.00                  | 22.60              | 65.96          | 2,018.68                  | 116.32             | 335.96        | 355.11                      | 0.35                          | -0.10                        | -0.88                       |  |
|         | 2,160.00                  | 22.25              | 64.12          | 2,101.87                  | 130.80             | 367.08        | 389.39                      | 0.87                          | -0.39                        | -2.04                       |  |
|         | 2,250.00                  | 22.34              | 62.86          | 2,185.15                  | 146.04             | 397.63        | 423.42                      | 0.54                          | 0.10                         | -1.40                       |  |
|         | 2,340.00                  | 21.02              | 60.95          | 2,268.78                  | 161.68             | 426.97        | 456.46                      | 1.66                          | -1.47                        | -2.12                       |  |
|         | 2,430.00                  |                    | 62.71          | 2,353.04                  | 176.62             | 454.85        | 487.91                      | 1.20                          | -0.98                        | 1.96                        |  |
|         | 2,520.00                  |                    | 65.33          | 2,437.71                  | 190.00             | 482.27        | 518.33                      | 1.22                          | -0.71                        | 2.91                        |  |
|         | 2,610.00                  |                    | 66.58          | 2,522.54                  | 202.24             | 509.72        | 548.37                      | 0.46                          | 0.02                         | 1.39                        |  |
|         | 2,700.00                  |                    | 67.91          | 2,607.37                  | 213.87             | 537.43        | 578.42                      | 0.49                          | -0.02                        | 1.48                        |  |
|         | 2,790.00                  | 19.17              | 67.72          | 2,692.30                  | 225.12             | 565.03        | 608.22                      | 0.37                          | -0.37                        | -0.21                       |  |
|         | 2,880.00                  | 19.17              | 66.22          | 2,777.31                  | 236.68             | 592.22        | 637.76                      | 0.55                          | 0.00                         | -1.67                       |  |
|         | 2,960.00                  | 18.99              | 65.79          | 2,852.91                  | 247.31             | 616.11        | 663.90                      | 0.29                          | -0.23                        | -0.54                       |  |
|         | TIE ON TO                 | SDI MWD SURVE      | Υ              |                           |                    |               |                             |                               |                              |                             |  |
|         | 3,030.00                  | 18.24              | 65.33          | 2,919.25                  | 256.56             | 636.46        | 686.22                      | 1.09                          | -1.07                        | -0.66                       |  |
|         |                           | MWD SURVEY         |                |                           |                    |               |                             |                               |                              |                             |  |
|         | 3,124.00                  | 18.56              | 63.06          | 3,008.44                  | 269.48             | 663.16        | 715.81                      | 0.83                          | 0.34                         | -2.41                       |  |
|         | 3,219.00                  | 18.60              | 65.19          | 3,098.49                  | 282.68             | 690.39        | 746.00                      | 0.72                          | 0.04                         | 2.24                        |  |
|         | 3,313.00                  | 18.75              | 65.80          | 3,187.54                  | 295.17             | 717.78        | 776.07                      | 0.26                          | 0.16                         | 0.65                        |  |
|         | 3,408.00                  |                    | 68.17          | 3,277.45                  | 307.16             | 746.02        | 806.74                      | 0.83                          | 0.20                         | 2.49                        |  |
|         | 3,502.00                  | 20.13              | 69.05          | 3,366.04                  | 318.61             | 775.29        | 838.17                      | 1.30                          | 1.27                         | 0.94                        |  |
|         | 3,597.00                  | 19.81              | 66.67          | 3,455.33                  | 330.84             | 805.33        | 870.61                      | 0.92                          | -0.34                        | -2.51                       |  |
|         | 3,691.00                  | 18.88              | 70.30          | 3,544.03                  | 342.27             | 834.28        | 901.74                      | 1.62                          | -0.99                        | 3.86                        |  |
|         | 3,786.00                  | 18.63              | 68.17          | 3,633.98                  | 353.09             | 862.84        | 932.27                      | 0.77                          | -0.26                        | -2.24                       |  |
|         | 3,880.00                  | 19.31              | 67.80          | 3,722.88                  | 364.55             | 891.17        | 962.83                      | 0.73                          | 0.72                         | -0.39                       |  |
|         | 3,974.00                  |                    | 71.05          | 3,811.42                  | 375.63             | 920.72        | 994.38                      | 1.34                          | 0.67                         | 3.46                        |  |
|         | 4,069.00                  | 19.50              | 70.80          | 3,900.85                  | 386.10             | 951.01        | 1,026.39                    | 0.47                          | -0.46                        | -0.26                       |  |
|         | 4,163.00                  | 17.75              | 70.92          | 3,989.92                  | 395.95             | 979.37        | 1,056.38                    | 1.86                          | -1.86                        | 0.13                        |  |



### **Anadarko Petroleum Corp**

Survey Report

TVD Reference:

MD Reference:



**Weatherford**\*

Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: UINTAH\_NBU 921-22B PAD

Well: NBU 921-22A1S
Wellbore: Wellbore #1
Design: ACTUAL

Local Co-ordinate Reference:

Well NBU 921-22A1S

26' RKB+4816' GL @ 4842.00ft (H&P 298) 26' RKB+4816' GL @ 4842.00ft (H&P 298)

North Reference: True

Survey Calculation Method: Minimum Curvature

Database: edmp

| Survey |               |                    |                |               |               |               |                     |                |                     |              |
|--------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------------|----------------|---------------------|--------------|
|        |               |                    |                |               |               |               |                     |                |                     |              |
|        | Measured      | 1                  |                | Vertical      |               | .=()4(        | Vertical<br>Section | Dogleg<br>Rate | Build               | Turn<br>Rate |
|        | Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | (ft)                | (°/100usft)    | Rate<br>(°/100usft) | (°/100usft)  |
|        | 4,257.00      | 16.44              | 67.42          | 4,079.77      | 405.74        | 1,005.20      | 1,083.99            | 1.77           | -1.39               | -3.72        |
|        | 4,352.00      | 15.19              | 65.55          | 4,171.17      | 416.05        | 1,028.94      | 1,109.87            | 1.42           | -1.32               | -1.97        |
|        | 4,447.00      | 16.25              | 65.05          | 4,262.62      | 426.81        | 1,052.32      | 1,135.58            | 1.12           | 1.12                | -0.53        |
|        | 4,541.00      | 14.69              | 63.30          | 4,353.21      | 437.72        | 1,074.90      | 1,160.59            | 1.73           | -1.66               | -1.86        |
|        | 4,636.00      | 15.81              | 63.05          | 4,444.86      | 448.99        | 1,097.19      | 1,185.48            | 1.18           | 1.18                | -0.26        |
|        | 4,730.00      | 15.63              | 60.55          | 4,535.35      | 461.02        | 1,119.64      | 1,210.79            | 0.75           | -0.19               | -2.66        |
|        | 4,824.00      | 17.19              | 62.67          | 4,625.52      | 473.63        | 1,143.00      | 1,237.17            | 1.78           | 1.66                | 2.26         |
|        | 4,919.00      | 17.81              | 62.92          | 4,716.12      | 486.69        | 1,168.41      | 1,265.61            | 0.66           | 0.65                | 0.26         |
|        | 5,013.00      | 18.00              | 62.42          | 4,805.57      | 499.95        | 1,194.08      | 1,294.38            | 0.26           | 0.20                | -0.53        |
|        | 5,107.00      | 16.88              | 64.67          | 4,895.24      | 512.52        | 1,219.29      | 1,322.46            | 1.39           | -1.19               | 2.39         |
|        | 5,202.00      | 15.75              | 68.55          | 4,986.42      | 523.13        | 1,243.76      | 1,349.12            | 1.65           | -1.19               | 4.08         |
|        | 5,298.00      | 16.41              | 68.74          | 5,078.66      | 532.82        | 1,268.53      | 1,375.71            | 0.69           | 0.69                | 0.20         |
|        | 5,392.00      | 15.00              | 68.30          | 5,169.15      | 542.13        | 1,292.20      | 1,401.15            | 1.51           | -1.50               | -0.47        |
|        | 5,487.00      | 12.81              | 68.30          | 5,261.36      | 550.57        | 1,313.42      | 1,423.98            | 2.31           | -2.31               | 0.00         |
|        | 5,582.00      | 9.75               | 70.92          | 5,354.52      | 557.10        | 1,330.81      | 1,442.55            | 3.27           | -3.22               | 2.76         |
|        | 5,676.00      | 7.88               | 71.17          | 5,447.40      | 561.78        | 1,344.43      | 1,456.94            | 1.99           | -1.99               | 0.27         |
|        | 5,771.00      | 4.44               | 71.30          | 5,541.84      | 565.06        | 1,354.08      | 1,467.11            | 3.62           | -3.62               | 0.14         |
|        | 5,865.00      | 2.63               | 64.92          | 5,635.66      | 567.14        | 1,359.48      | 1,472.90            | 1.97           | -1.93               | -6.79        |
|        | 5,959.00      | 1.13               | 130.55         | 5,729.61      | 567.45        | 1,362.14      | 1,475.48            | 2.55           | -1.60               | 69.82        |
|        | 6,054.00      | 0.06               | 67.67          | 5,824.61      | 566.86        | 1,362.89      | 1,475.97            | 1.16           | -1.13               | -66.19       |
|        | 6,148.00      | 0.13               | 314.17         | 5,918.61      | 566.95        | 1,362.86      | 1,475.97            | 0.17           | 0.07                | -120.74      |
|        | 6,243.00      | 0.56               | 107.17         | 6,013.60      | 566.89        | 1,363.23      | 1,476.29            | 0.71           | 0.45                | 161.05       |
|        | 6,337.00      | 0.69               | 106.92         | 6,107.60      | 566.59        | 1,364.21      | 1,477.09            | 0.14           | 0.14                | -0.27        |
|        | 6,432.00      | 0.63               | 136.55         | 6,202.59      | 566.05        | 1,365.12      | 1,477.73            | 0.36           | -0.06               | 31.19        |
|        | 6,526.00      | 0.94               | 153.05         | 6,296.58      | 564.98        | 1,365.82      | 1,477.98            | 0.40           | 0.33                | 17.55        |
|        | 6,621.00      | 0.88               | 144.92         | 6,391.57      | 563.69        | 1,366.59      | 1,478.22            | 0.15           | -0.06               | -8.56        |
|        | 6,715.00      | 1.44               | 138.29         | 6,485.55      | 562.22        | 1,367.79      | 1,478.78            | 0.61           | 0.60                | -7.05        |
|        | 6,810.00      | 1.52               | 151.60         | 6,580.52      | 560.22        | 1,369.19      | 1,479.33            | 0.37           | 0.08                | 14.01        |
|        | 6,904.00      | 0.19               | 7.80           | 6,674.51      | 559.28        | 1,369.80      | 1,479.55            | 1.78           | -1.41               | -152.98      |
|        | 6,998.00      | 1.44               | 332.30         | 6,768.50      | 560.48        | 1,369.27      | 1,479.51            | 1.37           | 1.33                | -37.77       |
|        | 7,093.00      | 1.19               | 323.80         | 6,863.47      | 562.33        | 1,368.14      | 1,479.14            | 0.33           | -0.26               | -8.95        |
|        | 7,187.00      | 0.69               | 292.92         | 6,957.46      | 563.34        | 1,367.04      | 1,478.50            | 0.74           | -0.53               | -32.85       |
|        | 7,187.00      | 0.38               | 244.67         | 7,052.46      | 563.43        | 1,366.23      | 1,477.78            | 0.55           | -0.33               | -50.79       |
|        | 7,376.00      | 0.25               | 313.80         | 7,146.46      | 563.44        | 1,365.80      | 1,477.38            | 0.40           | -0.14               | 73.54        |
|        | 7,470.00      | 0.19               | 268.30         | 7,240.46      | 563.57        | 1,365.49      | 1,477.15            | 0.19           | -0.06               | -48.40       |
|        | 7,565.00      | 0.56               | 171.92         | 7,335.46      | 563.11        | 1,365.40      | 1,476.90            | 0.64           | 0.39                | -101.45      |
|        | 7,659.00      | 1.63               | 11.55          | 7,429.45      | 563.96        | 1,365.73      | 1,477.52            | 2.30           | 1.14                | -170.61      |
|        | 7,754.00      | 2.63               | 330.67         | 7,524.38      | 567.19        | 1,364.94      | 1,477.98            | 1.85           | 1.05                | -43.03       |
|        | 7,848.00      | 2.31               | 334.67         | 7,618.30      | 570.78        | 1,363.07      | 1,477.59            | 0.39           | -0.34               | 4.26         |
|        | 7,943.00      | 1.56               | 326.80         | 7,713.24      | 573.59        | 1,361.54      | 1,477.22            | 0.84           | -0.79               | -8.28        |
|        | 8,037.00      | 1.13               | 319.17         | 7,807.22      | 575.37        | 1,360.24      | 1,476.67            | 0.49           | -0.46               | -8.12        |
|        | 8,132.00      | 0.81               | 329.30         | 7,902.20      | 576.65        | 1,359.28      | 1,476.26            | 0.38           | -0.34               | 10.66        |
|        | 8,226.00      | 0.06               | 305.17         | 7,996.20      | 577.25        | 1,358.90      | 1,476.13            | 0.80           | -0.80               | -25.67       |
|        | 8,321.00      | 0.00               | 157.92         | 8,091.20      | 577.09        | 1,358.94      | 1,476.10            | 0.32           | 0.20                | -155.00      |
|        | 0,021.00      | 0.23               | 101.02         | 0,001.20      | 377.03        | 1,000.04      | 1,770.10            | 0.02           | 0.20                | 100.00       |



### **Anadarko Petroleum Corp**





**Weatherford**\*

Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 UINTAH\_NBU 921-22B PAD

 Well:
 NBU 921-22A1S

Wellbore: Wellbore #1
Design: ACTUAL

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

26' RKB+4816' GL @ 4842.00ft (H&P 298) True

**Survey Calculation Method:** 

2001

Database:

Minimum Curvature

Well NBU 921-22A1S

26' RKB+4816' GL @ 4842.00ft (H&P 298)

edmp

| y ·                       |                    |                |                           |               |               |                             |                               |                              |                             |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|                           |                    |                |                           |               |               |                             |                               |                              |                             |
| 8,415.00                  | 1.25               | 277.55         | 8,185.19                  | 577.03        | 1,358.00      | 1,475.21                    | 1.48                          | 1.06                         | 127.27                      |
| 8,509.00                  | 1.00               | 259.05         | 8,279.17                  | 577.01        | 1,356.18      | 1,473.51                    | 0.47                          | -0.27                        | -19.68                      |
| 8,604.00                  | 1.13               | 243.42         | 8,374.16                  | 576.43        | 1,354.53      | 1,471.77                    | 0.33                          | 0.14                         | -16.45                      |
| 8,698.00                  | 1.25               | 231.42         | 8,468.14                  | 575.38        | 1,352.90      | 1,469.86                    | 0.29                          | 0.13                         | -12.77                      |
| 8,792.00                  | 1.19               | 207.05         | 8,562.12                  | 573.87        | 1,351.65      | 1,468.14                    | 0.55                          | -0.06                        | -25.93                      |
| 8,887.00                  | 1.56               | 194.92         | 8,657.09                  | 571.74        | 1,350.87      | 1,466.62                    | 0.49                          | 0.39                         | -12.77                      |
| 8,982.00                  | 1.56               | 185.17         | 8,752.05                  | 569.21        | 1,350.42      | 1,465.26                    | 0.28                          | 0.00                         | -10.26                      |
| 9,076.00                  | 0.94               | 181.30         | 8,846.03                  | 567.16        | 1,350.29      | 1,464.38                    | 0.67                          | -0.66                        | -4.12                       |
| 9,171.00                  | 1.25               | 173.67         | 8,941.01                  | 565.35        | 1,350.38      | 1,463.79                    | 0.36                          | 0.33                         | -8.03                       |
| 9,265.00                  | 1.13               | 173.92         | 9,034.99                  | 563.41        | 1,350.59      | 1,463.27                    | 0.13                          | -0.13                        | 0.27                        |
| 9,359.00                  | 1.00               | 172.55         | 9,128.98                  | 561.68        | 1,350.80      | 1,462.81                    | 0.14                          | -0.14                        | -1.46                       |
| 9,454.00                  | 0.94               | 170.55         | 9,223.96                  | 560.09        | 1,351.03      | 1,462.44                    | 0.07                          | -0.06                        | -2.11                       |
| 9,548.00                  | 0.81               | 170.42         | 9,317.95                  | 558.67        | 1,351.27      | 1,462.13                    | 0.14                          | -0.14                        | -0.14                       |
| 9,852.00                  | 1.75               | 176.42         | 9,621.87                  | 551.92        | 1,351.92      | 1,460.21                    | 0.31                          | 0.31                         | 1.97                        |
| 10,240.00                 | 2.31               | 185.05         | 10,009.63                 | 538.22        | 1,351.60      | 1,454.81                    | 0.16                          | 0.14                         | 2.22                        |
| LAST WFT N                | MWD SURVEY         |                | ,                         |               | ,             | ,                           |                               |                              |                             |
| 10,300.00                 | 2.31               | 185.05         | 10,069.58                 | 535.81        | 1,351.39      | 1,453.72                    | 0.00                          | 0.00                         | 0.00                        |
| PROJECTIO                 | N TO TD            |                |                           |               |               |                             |                               |                              |                             |

| Design Annotations |               |               |               |                          |
|--------------------|---------------|---------------|---------------|--------------------------|
| Measur             | ed Vertica    | l Local       | Coordinates   |                          |
| Depth<br>(ft)      | Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Comment                  |
| 2,96               | 0.00 2,85     |               | 616.11        | TIE ON TO SDI MWD SURVEY |
| 3,03               | 0.00 2,91     | 9.25 256.56   | 636.46        | FIRST WFT MWD SURVEY     |
| 10,24              | 0.00 10,00    | 9.63 538.22   | 1,351.60      | LAST WFT MWD SURVEY      |
| 10,30              | 0.00 10,06    | 9.58 535.81   | 1,351.39      | PROJECTION TO TD         |

| Checked By: | Approved By: | Dat | e: |
|-------------|--------------|-----|----|
|             |              |     |    |

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